

SR 167

Puyallup to SR 509

SR 167 Puyallup River Bridge Replacement

Final Supplemental Environmental Impact Statement and Record of Decision

July 2013



Lead Agencies



U.S. Department of Transportation
Federal Highway
Administration



Washington State
Department of Transportation

Cooperating Agencies



Army Corps of Engineers



City of Fife



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THIS DOCUMENT CONTAINS:

SR 167 Puyallup to SR 509, Puyallup River Bridge Replacement Final Supplemental EIS

167 Puyallup to SR 509, Puyallup River Bridge Replacement Record of Decision

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SR 167 Puyallup to SR 509

SR 167 Puyallup River Bridge Replacement

Final Supplemental EIS

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SR 167

Puyallup to SR 509

Pierce County, State of Washington

Final Supplemental Environmental Impact Statement

Submitted Pursuant to Section 42 U.S.C. 4332(2)(c) and RCW 43.21C
by the
Federal Highway Administration, and
Washington State Department of Transportation

7/15/13
Date of Approval

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This Supplemental EIS documents the SR 167, Puyallup River Bridge Replacement project, which is a phase of the larger SR 167 Extension project. This phase of the project proposes to provide bridges and a roadway profile compatible with the SR 167, Puyallup to SR 509 extension project.

The SR 167 Extension project proposes to construct an extension of the SR 167 freeway from SR 161 (Meridian Street North) in the city of Puyallup to the SR 509 freeway in the city of Tacoma. The 2006 FEIS evaluated the mainline alignment as proposed in Tier I and multiple design options at the SR 509, 54 Avenue East, Interstate 5, Valley Avenue and SR 161 interchanges. The 2006 FEIS was completed in November, 2006 and the ROD was issued in October, 2007.

Copies of this document are available at the above locations for a cost of \$35.00 (\$2.25 for a CD), which does not exceed the cost of reproduction or distribution. The document is also available on the internet at the following address:

<http://www.wsdot.wa.gov/projects/sr167/puyallupriverbridge/>

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PROJECT TITLE: SR 167 – PUYALLUP TO SR 509

Project Location: This portion of the project will replace the existing northbound State Route (SR) 167 Puyallup River Bridge. This phase would be constructed within Pierce County, Washington in the City of Puyallup.

Project Description: The Washington State Department of Transportation (WSDOT) is planning the completion of the SR 167 freeway between SR 161 (Meridian Street North) in north Puyallup and the SR 509 freeway in the City of Tacoma, otherwise known as the SR 167, Puyallup to SR 509 project or the 167 Extension project. The 167 Extension project includes an interchange between SR 167 and SR 161, just north of the Puyallup River. The *preferred alternative* entailed removing the Meridian Street Bridge and constructing a new five-lane northbound bridge in its place. The Tier II Final Environmental Impact Statement (EIS) for the SR 167, Puyallup to SR 509 project was completed in November, 2006 and the Record Of Decision (ROD) was issued in October, 2007. WSDOT received funding for engineering and to purchase right of way around this time.

The SR 167 Puyallup River Bridge Replacement project is a phase of this larger project. The scope of the bridge replacement project is to construct a new bridge that meets current design standards, preserving the structural and functional integrity of the roadway and that is compatible with the ultimate crossing design of the SR 167 Puyallup to SR 509 project. The current northbound Meridian Street Bridge was constructed in 1925 and has reached the end of its life span. This phase will remove this existing historic steel truss bridge and modify the deck of the existing southbound concrete bridge to handle northbound traffic. A new concrete bridge will be built on the west side of the existing southbound bridge to handle southbound traffic. It will have a span of 560' with five piers. The existing Meridian Street Bridge will be dismantled and preserved offsite. WSDOT has negotiated with King and Pierce Counties regarding the potential for use of the Puyallup River steel truss on the Foothills Trail between Enumclaw and Buckley. If this plan is not feasible, WSDOT will advertise the historic bridge in an attempt to find an entity that is willing and capable of using or displaying the bridge, while maintaining its historic integrity.

This proposed design will serve existing traffic, and will accommodate the ultimate configuration of the proposed SR 167/SR 161 interchange and proposed five-lane northbound bridge of the 167 Extension project. When funding becomes available to complete the 167 Extension project at a later date, construction crews will be able to utilize the footprint of the Meridian Street Bridge to construct the first two lanes of the five-lane northbound bridge. The modified two-lane concrete bridge handling northbound traffic would then be demolished to make room to finish construction of the remaining three lanes of the ultimate five-lane bridge for northbound traffic. This Final Supplemental EIS responds to public comments on the Draft Supplemental EIS and provides supplemental information.

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Olympic Region

SEPA

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Proposed Implementation Date

This phase is currently scheduled to begin Advertisement for bids in the summer of 2013. This phase will be built using the design-build project delivery method and construction will last approximately two years.

Required Permits, Approvals and Licenses

U.S. Army Corps of Engineers

- Section 404 Permit

Office of Archeology & Historic Preservation

- Section 106

Washington State Department of Ecology

- Certification of Consistency with Coastal Zone Management
- Clean Water Act Section 401 Water Quality Certification
- NPDES Permit

Washington State Department of Fish and Wildlife

- Hydraulic Project Approval

Pierce County/City of Puyallup

- Critical Areas Ordinance
- Shoreline Substantial Development Permits
- Noise Variance

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Project Schedule

Date of Issue of Draft Supplemental EIS	Jan. 7, 2013
Date Comments Due	Mar. 15, 2013
Issue Final Supplemental EIS	Jul. 16, 2013

Agency Action and Projected Date for Action

Record of Decision following issue of Final Supplemental EIS

Additional Documentation

The Draft Supplemental EIS contains a Summary that will be available on the project website

(<http://www.wsdot.wa.gov/projects/sr167/puyallupriverbridge/>). The complete Draft Supplemental EIS and support materials, including all Discipline Reports will also be available for review at:

6639 Capitol Blvd, Suite 302, Tumwater, WA 98501

360-570-6701, Fax# 360-570-6697. Please call for an appointment.

Copies of the Draft Supplemental EIS and related technical studies can be obtained from:

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Cost

The cost of the combined Final Supplemental EIS and ROD is \$35.00 (\$2.25 for a CD), which does not exceed the cost of reproduction.

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Abbreviations and Acronyms

ACHP	Advisory Council on Historic Preservation	NEPA	National Environmental Policy Act of 1969
ADA	Americans with Disabilities Act	NMFS	National Marine Fisheries Service (AKA: NOAA Fisheries)
AHS	Archaeological and Historical Services	NOAA	National Oceanic and Atmospheric Administration
APE	Area of Potential Effects	NPDES	National Pollutant Discharge Elimination System
BA	Biological Assessment	NRHP	National Register of Historic Places
BMP	Best Management Practice	OHWM	Ordinary High Water Mark or line
BO	Biological Opinion	PRBR	Puyallup River Bridge Replacement project
CAA	Clean Air Act (Federal), 42 USC Section 7901	PSRC	Puget Sound Regional Council
CAC	Citizens' Advisory Committee	ROD	Record of Decision (NEPA)
CAVFS	Compost Amended Vegetated Filter Strip	RRP	Riparian Restoration Proposal
COE	United States Army Corp of Engineers	RPZ	Runway Protection Zone
CWA	Clean Water Act, 33 USC Section 1251	SEIS	Supplemental Environmental Impact Statement
DAHP	Department of Archaeology and Historic Preservation	SEPA	State Environmental Policy Act
DEIS	Draft Environmental Impact Statement	SHPO	State Historic Preservation Officer
DSEIS	Draft Supplemental SEIS	SIP	State Implementation Plan
DPS	Distinct Population Segment (USFWS)	SPL	Sound Pressure Level
EIS	Environmental Impact Statement	SPCC	Spill Prevention, Control, and Countermeasures
ESA	Endangered Species Act	SR	State Route
ESU	Evolutionarily Significant Unit (NOAA-Fisheries)	TESC	Temporary erosion and sedimentation control
FEIS	Final Environmental Impact Statement	THPO	Tribal Historic Preservation Officer
FHWA	Federal Highway Administration	USDOT	U.S. Department of Transportation
FONSI	Finding of No-Significant Impact - (NEPA)	USEPA	U.S. Environmental Protection Agency
HAER	Historic American Engineering Record	USFWS	U.S. Fish and Wildlife Service
HPA	Hydraulics Project Approval	WDFW	Washington Department of Fish and Wildlife
LTAA	Likely to Adversely Affect (ESA)	WSDOE	Washington State Department of Ecology
MOA	Memorandum of Agreement	WSDOT	Washington State Department of Transportation

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Executive Summary

Introduction

The State Route (SR) 167, Puyallup River Bridge (167/20E) replacement, which is a small component of the larger SR 167, Puyallup to SR 509 project, has recently been funded. The legislature has mandated the design build process for delivery of this phase. The SR 167 Puyallup River Bridge is also called the Meridian Street Bridge. This Final Supplemental Environmental Impact Statement (EIS) has been prepared for this work because this bridge has become eligible for listing in the National Register of Historic Places (NRHP). At the time the original EIS was completed, the Meridian Street Bridge was not NRHP eligible.

The Washington State Department of Transportation (WSDOT) and Federal Highway Administration (FHWA) proposed the SR 167, Puyallup to SR 509 Project. The SR 167, Puyallup to SR 509 Project is located in Pierce County, Washington, within the Cities of Fife, Puyallup, Edgewood, Milton and Tacoma. The Final EIS for this project was completed in November 2006 (2006 Final EIS) and Record of Decision (ROD) issued in October 2007. There was no construction funding available to construct the project at that time. WSDOT received funding for engineering and to purchase right of way through June 30, 2011. WSDOT has acquired 103 properties that comprise 70% of the corridor right of way, and received additional funds in 2012 to continue with acquisition.

What is the purpose of the SR 167, Puyallup River Bridge Replacement project and why is it needed?

The SR 167, Puyallup River Bridge Replacement project is an integral part of the larger SR 167, Puyallup to SR 509 project. The funding of this bridge replacement project has been expedited because severe corrosion of the steel members and delamination of the concrete floor beams and piers were noted during routine inspection. Due to the magnitude of deterioration of the structure, WSDOT implemented a load restriction requiring vehicles larger than 10,000 pounds gross vehicle weight to use the right lane only. The project will also help to reduce maintenance costs due to deterioration of the structure. The original purpose and need of the SR 167, Puyallup to SR 509 project is to improve regional mobility on the transportation system to serve multimodal local and port freight movement and passenger movement between the Puyallup termini of SR 167, SR 410, and SR 512 and the Interstate 5 (I-5) corridor and to the Port of Tacoma.

Who is directing the project?

FHWA and WSDOT are co-lead agencies. They guide the environmental review oversight and roadway design guidance.

Will there be any change in design for the bridge from the 2006 Final EIS?

The change will be that a new two-lane bridge will be constructed to the west of the existing concrete bridge, instead of at the current location of the steel truss bridge. The existing two-lane concrete bridge will be retrofitted to handle northbound traffic and the new bridge will handle southbound traffic. By changing the position of the new bridge, the current design will have significant environmental and cost benefits which are as follows:

- Elimination of the need for a detour structure east of the historic steel bridge, since the new two lane bridge could be built *off line*.
- Elimination of any impacts to the roads accessing the business northeast of the bridge.
- Reduced permanent impacts to right of way by constructing a retaining wall to preserve the parking lot southwest of the bridge.
- Project duration will be reduced, minimizing impacts to traffic and the environment.

- Reduces the risk of future design and/or constructability issues by building a new two-lane southbound bridge as opposed to building two lanes of a future five-lane northbound bridge.

Once funding is available to complete the SR 167, Puyallup to SR 509 project, the two-lane northbound bridge will be removed to make way for the ultimate configuration of a five-lane northbound bridge that was detailed in the 2006 Final EIS.

When would the project be constructed?

The SR 167, Puyallup River Bridge Replacement project is currently scheduled to be advertised for bids in the summer of 2013. This project will use a design-build contract and construction will last approximately two years.

What are the environmental consequences of the project?

The analyses presented in this Final Supplemental Environmental Impact Statement cover the environmental issues and effects that are different from the 2006 Final EIS. The Meridian Street Bridge design changes affect archaeological and historic resources, fish and water resources. There will be no additional effects to other resources with this phase as compared to the 2006 Final EIS.

The changes in effects are as follows:

Fish – Two federally protected fish species, and their critical habitat, were described in the 2006 Final EIS because they could potentially occur in the project area: Puget Sound Chinook, and bull trout. Since that time, two additional fish species present in this area were listed as threatened or endangered under the Endangered Species Act (ESA): Puget Sound steelhead, and southern distinct population segment of Pacific Eulachon. Eulachon are unlikely to be present in the project area. The proposed project may affect Steelhead and is *likely to adversely affect* individual juveniles and adults. An update to the ESA Section 7 Biological Assessment will be done and concurrence from the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) will be obtained. Proposed design changes will not change the determination of *adverse affect* on Essential Fish Habitat.

Water Resources – The water resources impacts are consistent with the impacts which were discussed in the 2006 Final EIS. The placement of the bridge on the west side of the existing bridges will eliminate the need for a detour structure east of the historic steel bridge, which will reduce the impact due to in-water work. Replacement of the steel bridge will require in-water work trestle and one pier will be located in the Puyallup River. Construction work below the ordinary high water mark is expected to include work in the water due to placement of temporary piles, permanent piers, bridge installation and placement of quarry spalls. This will be done under the requirements of the Hydraulic Project Approval permit as issued by the Washington Department of Fish and Wildlife (WDFW) and the Section 404 permit issued by the U.S. Army Corps of Engineers.

Archaeological and Historical Resources – The area of potential effects to archaeological and historic resources has been changed from the 2006 Final EIS, to include all additional areas of disturbance associated with the proposed new bridge design. This includes potential indirect visual or audible effects. The SR 167 Puyallup River steel truss (Meridian Street) bridge is now eligible for listing in the NRHP. Both the 2006 Final EIS design and the proposed design require removal of this bridge, which is now an adverse effect under Section 106 of the National Historic Preservation Act (NHPA) and Section 4(f) of the Department of Transportation Act of 1966. WSDOT and FHWA have completed a Memorandum of Agreement (MOA) that mitigates adverse effects to the Meridian Street Bridge. The impacts will be mitigated as agreed upon with state and federal resource agencies. The details on the bridge and proposed mitigation can be found in Chapter 5 and in Appendix B.

Section 4(f) Resources – The historic bridge is a Section 4(f) resource as well as a historic resource. The draft addendum to Section 4(f) evaluation was prepared, has been updated and is being circulated for comment. This report is available as an appendix. (**Appendix B**)

What mitigation is proposed for this project?

In addition to mitigation measures discussed in the 2006 Final EIS, the SR 167, Puyallup River Bridge Replacement project will include mitigation for the removal of the historic bridge. An Amended Memorandum of Agreement (MOA) was completed on May 6, 2013 and mitigation measures for the adverse effect on the Meridian Street Bridge are stipulated. The stipulations in the MOA include:

- WSDOT will complete Level 2 Historic Engineering Record documentation and video documentation of the Puyallup River Bridge #167/20E (Meridian Street) steel truss and make the HAER report and video available via a web site dedicated to the historical documentation of the bridge.
- WSDOT is negotiating with King and Pierce Counties regarding the potential for use of the Puyallup River steel truss bridge on the Foothills Trail between Enumclaw and Buckley across the White River.
- WSDOT will remove the steel truss from its current location and move it to the adjacent proposed alignment for the SR 167 freeway extension. WSDOT will then make any necessary repairs to the steel truss to assure structural integrity and secure the structure for storage until it can be relocated to the White River, or an alternate location, until 2019.
- WSDOT, King and Pierce Counties, and the cities of Enumclaw and Buckley will continue to seek funding and grant opportunities to close the funding gap between the cost for reusing the steel truss and constructing a new pedestrian bridge.
- If the grant applications are successful in providing the necessary funds to preserve the Puyallup River steel truss as a part of the Foothills Trail, King and Pierce Counties will enter into an MOU that will identify ownership and long term maintenance responsibilities. In the event it is not economically feasible to reuse the steel truss bridge for the Foothills Trail, WSDOT will, in consultation with SHPO and interested consulting parties, prepare a Bridge Marketing Plan for advertising the availability of the bridge for preservation at an alternate location utilizing the video documentation and web site completed per stipulations in the MOA. WSDOT will actively seek an alternate preservation site for the bridge until June 2019. WSDOT will dispose of the steel truss if, after June 2019, no preservation sites or reasonable and sufficient funding sources have been successfully identified for the permanent preservation of the bridge.

Did the public have input on this project?

Extensive consultation with the public and interest groups was conducted during the EIS process. The information is available in Chapter 1 of the SR 167, Puyallup to SR 509 2006 Final EIS. WSDOT created a webpage for the SR 167, Puyallup River Bridge Replacement project in November 2011 that provided information about the project and contact information for the design office. The project webpage is updated every month to highlight progress on the project.

[\(http://www.wsdot.wa.gov/projects/sr167/puyallupriverbridge/\)](http://www.wsdot.wa.gov/projects/sr167/puyallupriverbridge/)

WSDOT has initiated consultation with the public and interested parties for the Meridian Street Bridge under Section 106 of the NHPA. Because of its historic significance, WSDOT and FHWA have pursued ways to preserve the Meridian Street Bridge even though it will need to be removed from its present location. An MOA developed in consultation with tribes, local and state agencies and other interested parties stipulating the measures that will be taken to achieve this proposed preservation was signed in May 2012. WSDOT and FHWA will continue consultation with interested parties in order to seek ways to minimize, or mitigate adverse effects to the Meridian Street Bridge that would result from the Puyallup River Bridge Replacement project.

WSDOT provided the Draft Supplemental EIS to the public and agencies for their comments. The Draft Supplemental EIS was made available in Pierce County offices and libraries for review by the public and all interested parties. Comments received on the Draft Supplemental EIS have been noted and all substantive comments on the Draft have been addressed in this Final Supplemental EIS or in a response to the party which submitted the comment. WSDOT will continue to meet with any interested parties to resolve any environmental issues that may occur during final project design and construction.

Have the tribes and other agencies been involved in this project?

WSDOT staff will coordinate directly with agencies that are responsible for issuing environmental permits for the SR 167, Puyallup River Bridge project. These agencies include the U.S. Army Corps of Engineers, NMFS, USFWS, the Washington State Department of Ecology, WDFW, Pierce County and the City of Puyallup.

Consultation with the Puyallup Tribe was conducted through the 2006 Final EIS process. At that time, a Section 106 MOA was developed in consultation with the Puyallup Tribe and other consulting parties.

Four tribes, (Muckleshoot, Puyallup, Squaxin Island and Yakama Nation) whose area of interest includes the project area, were informed in January 2012 about this phase and were given an opportunity to comment on the area of potential effects. No comments have been received to date.

An updated cultural resources survey report was completed for the project on August 2, 2012 and has been sent to all the tribes of interest and to the Department of Archaeology and Historic Preservation for comments. The Section 106 MOA was updated (May 2013) in consultation with tribes, agencies and other interested parties as a mitigation measure for the *adverse effect* on the Meridian Street Bridge.

During construction, WSDOT will make contact with both the Pierce County Sheriff and the Washington State Patrol, and other local emergency services, and do everything possible for smooth running of traffic.

WSDOT will continue to meet with regulatory agencies and tribes to resolve any environmental issues that may occur during project design and construction.

What happens next?

Puyallup River Bridge Replacement

This phase is currently scheduled to begin Advertisement for bids in the summer of 2013. This phase will be design-build and construction will take about two years.

Section 106 Mitigation

WSDOT will work with King and Pierce Counties to seek funding and grant opportunities to reuse and preserve the historic steel truss bridge. The success of this effort will determine if there is sufficient funding to close the gap between constructing a new pedestrian bridge and reusing the steel truss for a pedestrian crossing over the White River as a part of the Foothills Trail connecting Pierce and King Counties.

Phased Construction

The SR 167, Puyallup River Bridge Replacement project is a small component of the larger SR 167, Puyallup to SR 509 Extension project. As funding becomes available, additional right of way will be purchased for the project corridor and future phases of the project will be constructed.

How can I learn more?

WSDOT maintains project webpages for the SR 167, Puyallup River Bridge Replacement project and the SR 167, Puyallup to SR 509 Extension project:

- <http://www.wsdot.wa.gov/projects/sr167/puyallupriverbridge/>
- <http://www.wsdot.wa.gov/projects/sr167/tacomatoedgewood/>

If you have further questions about the SR 167, Puyallup River Bridge Replacement project please contact:

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Chapter 1 - Introduction

The Washington State Department of Transportation (WSDOT) and Federal Highway Administration (FHWA) proposed the State Route (SR) 167, Puyallup to SR 509 Extension project. The SR 167, Puyallup to SR 509 Extension project (hereafter referred to as the *167 Extension project*) is located in Pierce County, Washington, within the Cities of Fife, Puyallup, Edgewood, Milton and Tacoma. The environmental analysis for this project was completed in two tiers (stages). The Tier I Environmental Impact Statement (EIS) analyzed the location and environmental aspects of different corridor options and selected the environmentally preferred corridor. The Tier II EIS selected the preferred alignment within the corridor and the interchange configuration. The 167 Extension project includes an interchange between SR 167 and SR 161, just north of the Puyallup River, which necessitates the reconstruction of the Puyallup River Bridges, 167/20E and 167/20W. Since Bridge 167/20E, also known as the Meridian Street Bridge, has been recently determined to be eligible for the National Register of Historic Places (NRHP), the 167 Extension project would have an additional impact to archaeological and historic resources. Therefore the EIS for the 167 Extension project must be supplemented with this information. This Final Supplemental EIS provides updates and additional analyses, and a comparison of impacts and benefits associated with a proposed design change for the Puyallup River crossing aspect of the 167 Extension project.

1.1 What is the Reason for the SR 167 Extension Project?

The 167 Extension project will complete the SR 167 freeway by building four miles of new six-lane freeway from its current terminus in Puyallup at SR 161, through the Puyallup River valley, connecting to Interstate 5 (I-5) near the 70th Avenue undercrossing, and another two miles of four-lane divided freeway from I-5 west to connect to SR 509 near the Port of Tacoma. (**Exhibit 1: SR 167 Extension Project Alignment**)

The 167 Extension project will include one direct highway connection, four interchanges, two weigh stations, two park and ride lots, and the reconstruction of the Puyallup River Bridges. The project will also include an innovative stormwater management approach, known as the Riparian Restoration Proposal (RRP), which reduces potential flooding while improving local stream conditions. In addition to important traffic benefits such as increased mobility, improved safety, and accessibility; the SR 167 Extension project will include measures to avoid or minimize impacts, enhance wetlands, connect wildlife habitats, abate traffic noise, and other efforts to protect the environment.

1.1.1 Purpose and Need

The purpose and need for the 167 Extension project is not changed with this Final Supplemental EIS. The purpose and need of the 167 Extension project is to improve regional mobility to serve multimodal local and port freight movement and passenger movement between (1) the Puyallup termini of SR 167, SR 410, and SR 512 and (2) the I-5 corridor, the new SR 509 freeway, and the Port of Tacoma. The existing non-freeway segment of SR 167 has high levels of congestion at surface street intersections and includes many connecting driveways. Trucks transporting freight from the Port of Tacoma and the Puyallup industrial area add to the congestion. These conditions contribute to relatively high accident rates, and increased air pollution from the stop-and-go traffic conditions. In 1999, the Port of Tacoma projected that truck traffic would double to 600,000 trucks annually by the year 2014. Traffic modeling in 2008 and intersection counts in 2011 were analyzed to update traffic forecasts for this Final Supplemental EIS also indicate problems will continue to worsen out to the year 2035. (**See Appendix A**)

The project is intended to reduce congestion and improve safety on the arterials and intersections in the study area, provide improved system continuity between the SR 167 corridor and I-5, and maintain or improve air quality within the corridor to ensure compliance with the current State Implementation Plan and all requirements of the Clean Air Act. Benefits of the proposed project include:

- Reduces congestion
- Improves safety for traffic, pedestrians, and bicyclists
- Improves regional mobility of the transportation system

- Serves multi-modal freight and passenger movement
- Improves continuity between SR 167 and I-5
- Reduces flooded area along local creeks
- Maintains or improves air quality in the corridor
- Improves fish habitat in nearby streams

The Tier II Final Environmental Impact Statement (FEIS) for the 167 Extension project was issued in November 2006, (hereafter referred to as the 2006 FEIS) and FHWA issued the Record of Decision (ROD) in October 2007. While there was not sufficient funding available to construct the project at that time, WSDOT received funding for preliminary engineering and purchase of right of way. Since then, WSDOT has acquired 103 properties, which comprise 70% of the corridor right of way. WSDOT received additional funding to continue with right of way acquisition and preliminary engineering as part of the 2012 legislative supplemental budget. Construction, however, remains unfunded.

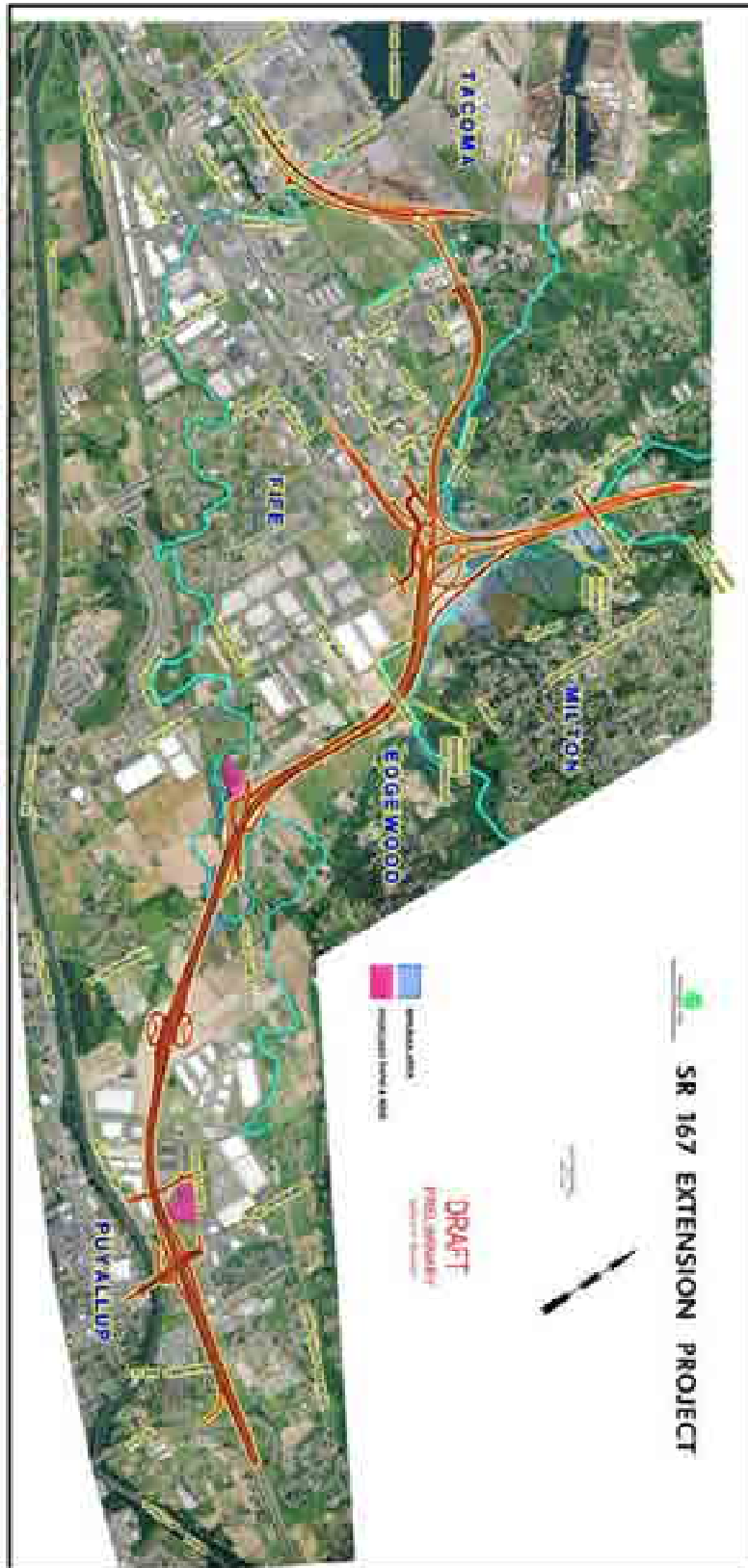


Exhibit 1: SR 167 Extension Project Alignment

1.2 Why is a Supplemental EIS needed?

The SR 167 Puyallup River Bridge Replacement project, which is a small phase of the 167 Extension project, has recently been funded. The Meridian Street Bridge is prioritized on the WSDOT Preservation Program list for Bridge Replacement during the 2013-2015 biennium, when the Legislature made the bridge a priority by funding the project for the 2011-2013 biennium. The legislature has mandated the design-build process for delivery of this phase, hereafter referred to as the Puyallup River Bridge Replacement project (PRBR). To prepare this phase for the design-build project delivery method, WSDOT reviewed the design and environmental documentation, and noted the conditions that have changed since the 2006 FEIS was completed. During recent inspections, the Meridian Street Bridge was determined to be eligible for listing on the NRHP. While it had been determined not to be eligible in 2006, the bridge is now eligible for the NRHP. The replacement of this bridge will be an *adverse effect* on a historic resource, which must now be added to the list of effects. The 2006 FEIS for the 167 Extension project must be supplemented with this information. Also, the design for the Puyallup River crossing as part of the 167 Extension project has been modified in response to this finding, and all environmental aspects of the changed design need to be evaluated. The design changes are detailed in Chapter 2, *Puyallup River Crossing Design Changes*.

1.3 What is included in this document?

This document and the attached discipline reports supplements the 2006 FEIS by describing the impacts expected from revised design of the Puyallup River crossing portion of the Extension project. Each category of potential environmental impact presented in the 2006 FEIS was reviewed to determine the potential for impacts and benefits that would be different from those reported in the FEIS. This Final Supplemental EIS presents only the information and analyses that were determined to be pertinent to the differences associated with the proposed Puyallup River crossing design changes:

- Archaeological and historic resources
- Threatened and endangered species
- Water resources
- Traffic

This document also describes the current proposed construction project, the Puyallup River Bridge Replacement project, which would construct a portion of the ultimate river crossing design. This phase would construct a new bridge for southbound lanes, and temporarily move the northbound lanes to bridge 167/20W. It would then remove the Meridian Street Bridge. The deteriorating condition of the Meridian Street Bridge has made this construction project critical.

Climate Change

WSDOT, in coordination with federal agencies, has developed guidance to address greenhouse gas emissions and climate change since the 2006 FEIS was issued. WSDOT's approach is consistent with draft guidance from the White House Council on Environmental Quality for analyzing project level greenhouse gas emissions and considering future climate change impacts. Section 3.8.1 of this document has further discussion of project design changes and adaptations to climate change.

1.4 What is not included in this document?

The following categories of potential environmental impacts are not discussed further in this document, since they are either not present in the Puyallup River crossing study area, or there are the same effects with the design revision presented in the 2006 FEIS.

The minor revision in alignment of the bridge replacement and traffic pattern for the Puyallup River crossing does not warrant an update to the analyses for the following:

- Air Quality

- Noise
- Energy
- Hazardous Materials
- Visual Quality
- Public Services and Utilities
- Land Use
- Wetlands
- Farmland
- Displacement
- Pedestrian and Bikes

Environmental Justice:

The 2006 FEIS discussed environmental justice issues in Chapter 3 (3.11.3). Based on the analyses performed, the project was not expected to disproportionately impact minority and/or low-income populations within the project area, and project impacts were not considered to be high and adverse after proposed mitigation measures were implemented. The proposed design revisions for the Puyallup River crossing will not change the overall SR 167 Puyallup to SR 509 Extension project impacts on minority populations or low-income populations.

1.5 Who will lead the project?

FHWA is the lead federal agency for the project, providing guidance and oversight to WSDOT. WSDOT is the non-federal lead for the supplementary environmental analysis phase.

1.6 How is the public involved?

The public was involved in the SR 167, Puyallup to SR 509 Extension project in the Tier I EIS and the Tier II EIS processes through public meetings, newsletters, e-mail notifications, project websites and open houses. The Citizen's Advisory Committee was formed to assist in recognizing local issues and concerns. The project team frequently made presentations to Chambers of Commerce, business associations and civic organizations. The 2006 FEIS summarizes the public involvement in the Tier I and Tier II processes.

The public was invited to review and comment on the SR 167, Puyallup River Bridge Replacement Draft Supplemental EIS. The input from the public will be carefully considered in agency decision making.

Opportunities for the public to learn about current and future project developments include:

- Project Web site: <http://www.wsdot.wa.gov/Projects/SR167/PuyallupRiverBridge>
- E-mails and telephone
- Project meetings with individuals and groups
- Project meetings with agencies and Tribes

1.7 What is the expected schedule and cost for the proposed construction project?

The preliminary engineering for the PRBR project is scheduled to be complete by the summer of 2013. The next phase of the project will be obtaining environmental permits which will be completed by the fall of 2013. The bridge design will begin in the late summer of 2013 and be complete by the summer of 2014. Construction will begin in the summer of 2014 and be complete by the fall of 2015. The PRBR project is currently funded and will cost approximately \$30 million for design, environmental analyses and mitigation, right of way, and construction.

1.8 What permits or approvals are needed before beginning construction?

Federal Agencies

- National Marine Fisheries Service (NMFS) & U.S. Fish & Wildlife Service (USFWS) - Endangered Species Act consultation
- U.S. Army Corps of Engineers (COE) - Nationwide Permit

State Agencies

- WA Department of Archaeological & Historical Preservation (DAHP) - Section 106 Concurrence
- WA Department of Ecology (WSDOE) - Section 401 Water Quality Certification, Section 402 National Pollutant Discharge Elimination System (NPDES) Permit, & Coastal Zone Management Certification
- WA Department of Fish & Wildlife (WDFW) - Hydraulic Project Approval

Local Agencies

- Pierce County - Critical Area Ordinance Review, Flood Plain Development Permit & Shoreline Substantial Development Permit

1.9 What information is provided in the remainder of this document?

- Chapter 2 – Puyallup River Crossing Design Changes: *Details the design changes proposed for the Puyallup River crossing.*
- Chapter 3 – Affected Environment, Impacts and Mitigation: *Details the potential benefits, environmental impacts, and mitigation associated with the proposed Puyallup River crossing design that is different from the previous design.*
- Chapter 4 – Public Agency and Tribal Coordination: *Details past consultations with regulatory agencies and interested parties through the 2006 Final EIS, and continuing consultations for this Supplemental EIS.*
- Chapter 5 – Section 4(f) Evaluation: *Details the Section 4(f) Evaluation of the Meridian Street Bridge.*

Appendices:

- A. Discipline Reports and List of Preparers
- B. Addendum to Section 4(f) Evaluation
- C. Biological Assessment
- D. Bridge Preliminary Plans
- E. Commitment List
- F. Circulation List

Chapter 2 –Puyallup River Crossing Design Changes

This chapter describes the previously proposed Puyallup River crossing portion of the SR 167 Extension project, the reasons for changing the design and the proposed new design.

2.1 What is the existing SR 167 Puyallup River crossing?

The existing SR 167 crossing of the Puyallup River is located at mile post 6.40, just outside the City of Puyallup. **(Exhibit 2 & Appendix D – Vicinity Map)** There are two southbound lanes on a concrete bridge constructed in 1970 (WSDOT Bridge number 167/20W), and two northbound lanes on a steel truss bridge, built in 1925 (WSDOT Bridge number 167/20E), known as the Meridian Street Bridge. **(Exhibit 3 – Aerial View of Existing SR 167 Puyallup River Bridges)** The Meridian Street Bridge is 371 feet long, with traveled lane widths of 21 feet from curb-to-curb, and has a 5-foot wide wooden sidewalk structure attached along the east side.



Exhibit 2 – SR 167 Historic Bridge

2.2 What design for the Puyallup River crossing was identified in the 2006 FEIS?

The preferred alternative for the SR 167 Puyallup River crossing as presented in the 2006 FEIS entailed removing the Meridian Street Bridge and constructing a new five-lane northbound bridge in its place. At the time, there was only a preliminary design for the new structure. The configuration of five-northbound lanes was determined necessary to safely allow traffic to weave into the correct lane as it approaches the proposed SR 167/SR 161 interchange. The proposal also included a small taper widening, and seismic retrofit on the existing southbound 1970 bridge. The construction strategy would require the use of a detour structure on the east side of the Meridian Street Bridge. Traffic would be shifted off of the Meridian Street Bridge onto the temporary structure, and the Meridian Street Bridge would be removed. Then the new five-lane northbound bridge would be constructed, and the temporary structure would be removed. The final stages would be the seismic retrofit of the 1970 bridge, and the taper widening on its north end to match into the proposed SR 161/167 Interchange.

This design was supported by two key decisions. The first was that the 1970 bridge could be seismically retrofitted economically. The second was that the access from Levee Road to northbound SR 167 would be terminated in a cul-de-sac, and a new connection road would be built between Levee Road and Valley Avenue to provide access to the business to the northwest of the bridge. In addition, during a review of historic-era properties for the 2006 FEIS, the Meridian Street Bridge was not eligible for the NRHP.

**Exhibit 3 –
Aerial View of
Existing SR 167
Puyallup River
Bridges**



2.3 What caused the Puyallup River crossing design to be reconsidered?

The current condition of the Meridian Street Bridge has made replacement of the bridge a priority. During a routine maintenance inspection of the Meridian Street Bridge in January of 2011, extensive floor beam deterioration was detected. Based on this condition, the structure is now rated *structurally deficient*. It was necessary for WSDOT to implement a load restriction on the bridge, requiring vehicles larger than 10,000 pounds gross vehicle weight to use the right lane only. The steel members are exhibiting severe corrosion and the concrete deck and piers are delaminating. **(Exhibits 4 and 5: Examples of deterioration on Meridian Street Bridge)** In addition, the lane and shoulder widths do not meet current standards. With the high volume of truck traffic, this results in frequent damage to the structure.



Exhibit 4 – Example of concrete spalling on Meridian Street Bridge (Note exposed rebar)

Spalling (definition) – To chip or crumble.



Exhibit 5 – Example of rusted beams on Meridian Street Bridge

The following factors led the design team to revise the Puyallup River crossing as part of the 167 Extension project, and develop a construction strategy for the replacement of the Meridian Street Bridge, or the PRBR:

Exhibit 5 shows severe pack rust between a girder and bottom flange. This example is typical for the bridge, with some areas of pack rust up to 1-1/2" thick.

Funding

Replacement of the Meridian Street Bridge was made a priority due to its deteriorated condition, and funding was approved for the 2011-2013 biennium. The PRBR project funding is limited to providing a two-lane structure built to current design standards. Therefore, the Puyallup River crossing design needed to allow for the interim PRBR construction project to function as part of the future 167 Extension project. The limited funding also required the design team to come up with a revised delivery strategy that would reduce the cost and duration of the interim construction project.

Historic Meridian Street Bridge

Recent inspection of the Meridian Street Bridge found advanced deterioration which made replacing it a high priority. It also led to the reassessment of the bridge's historic value, and it was ultimately determined to be eligible for listing on the NRHP. This meant that removing the bridge would be an adverse effect to a historic resource. Under Section 106 of the National Historic Preservation Act, and Section 4(f) of the Department of Transportation Act of 1966, such an affect must be avoided, minimized, or mitigated. This changed condition required the design team to examine alternatives to the Puyallup River crossing design in the 2006 FEIS, which had identified the need for demolition of the Meridian Street Bridge.

Seismic Standards

Since the 2006 FEIS was completed, seismic standards for highway bridges have been revised. When evaluated in light of these changes, it was determined that seismic retrofit of the 1970 bridge would be economically unfeasible. This change required an ultimate Puyallup River crossing configuration that allowed for construction of a new southbound bridge.

2.4 What other factors were considered in developing a new design?

Any revised bridge replacement design needed to connect to the proposed design for the remainder of the 167 Extension project, and accommodate the projected traffic. While two lanes are sufficient for current and future traffic volumes southbound, the northbound bridge will need an additional three lanes to provide necessary traffic capacity, and to safely connect to the proposed SR 167/SR 161 interchange that will be located just north of the bridge. The five northbound lanes will include two left-turn, one through, and two right-turn lanes. In order to allow traffic to weave/merge into the appropriate lanes in advance of the interchange, the new five-lane northbound bridge must be constructed over the footprint now occupied by the historic Meridian Street Bridge. In addition to the issues in Section 2.3, concerns regarding temporary and permanent impacts to the river, to private property and business operations, and to traffic operations, guided the development of a new design. The temporary detour structure which was necessary for the original bridge replacement design in the 2006 FEIS, would result in temporary right of way impacts, and would permanently impact access to the business located immediately northeast of the bridge. The Meridian Street Bridge could not be used for staging materials and equipment during construction because of the limited load capacity and limited clearance. Therefore, in the 2006 FEIS design, a substantial temporary work platform would have been constructed across the river. Those temporary structures would have resulted in temporary impacts to the river, with the installation and removal of pilings and approaches on the shoreline.



Exhibit 6: Aerial View of Proposed Puyallup River Bridge Replacement Channelization

2.5 What is the proposed revised design and delivery plan for the Puyallup River crossing?

Elements of the proposed revised design for the Puyallup River crossing as part of the 167 Extension project include:

- Reduce southbound traffic to one lane on the existing 1970 bridge.
- The 1970 bridge would then be used to stage materials and equipment for the construction of a new bridge to the west of the 1970 bridge for the southbound lanes. **(See Exhibit 6)**
- A temporary in water work trestle, approximately 30' x 100', would be constructed to build one in water pier for the new bridge.
- The new southbound bridge would have two 12-foot wide lanes, a 2-foot wide shoulder and an 8-foot wide sidewalk next to the outside lane, and a 4-foot wide shoulder next to the inside lane. **(See Exhibit 7)**
- Once the new bridge is completed, northbound traffic would shift to the 1970 bridge and southbound traffic would shift to the new bridge.
- The historic Meridian Street Bridge would then be removed along with the temporary work trestle.
- The 1970 bridge would be modified for interim use for two lanes of northbound traffic, by removing sidewalk, and removing and replacing traffic barriers, and re-striping lanes. **(See Exhibits 8 & 9)**
- The two northbound lanes are adequate until the SR 167/SR 161 Interchange is constructed as part of the larger 167 Extension project.
- Approach roads will be realigned to accommodate the new traffic pattern in this short segment.

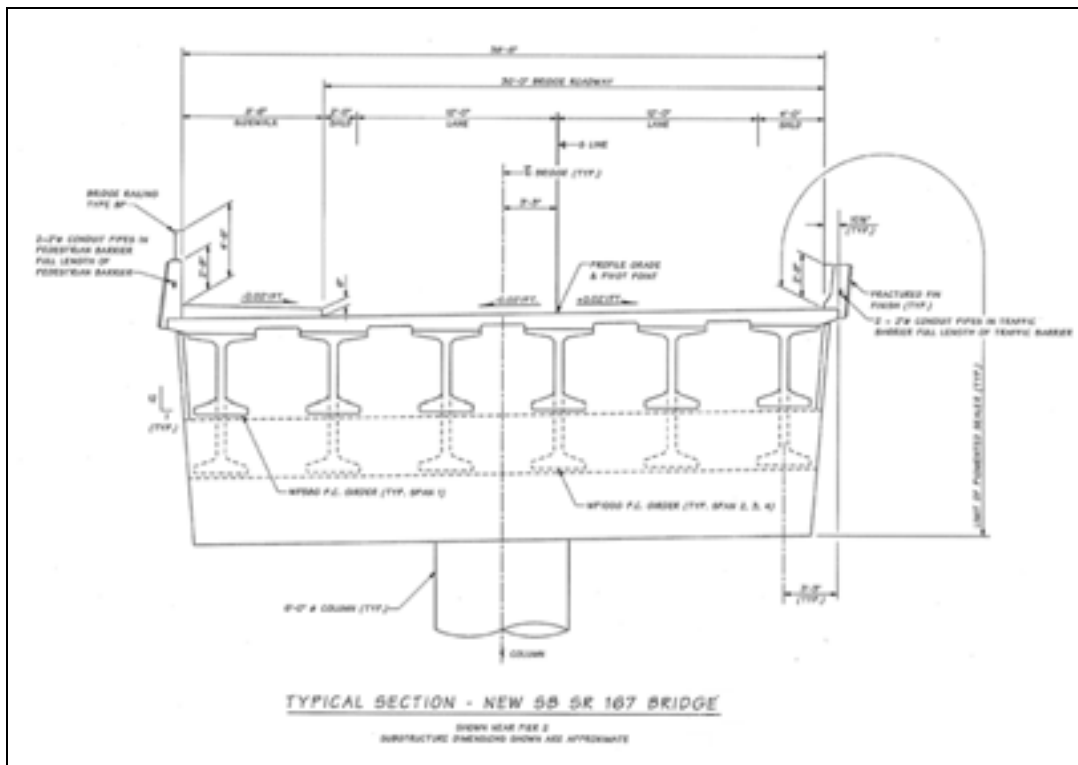


Exhibit 7 – Typical Cross Section of Proposed New SR 167 Southbound Bridge

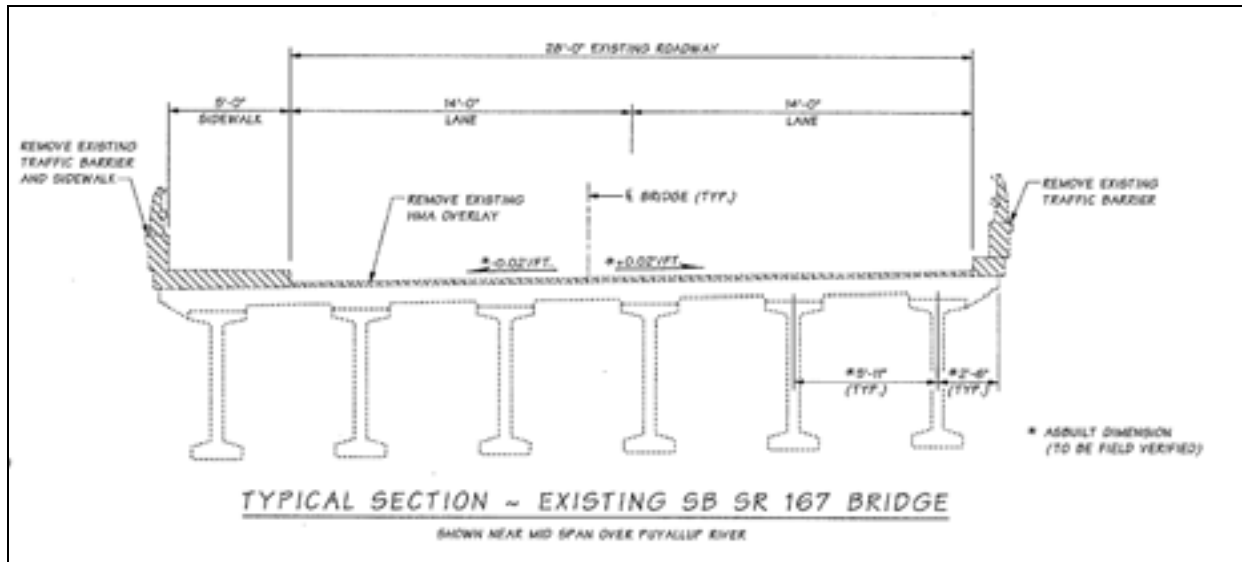


Exhibit 8 – Cross Section of Existing 1970 Bridge (currently southbound lanes)

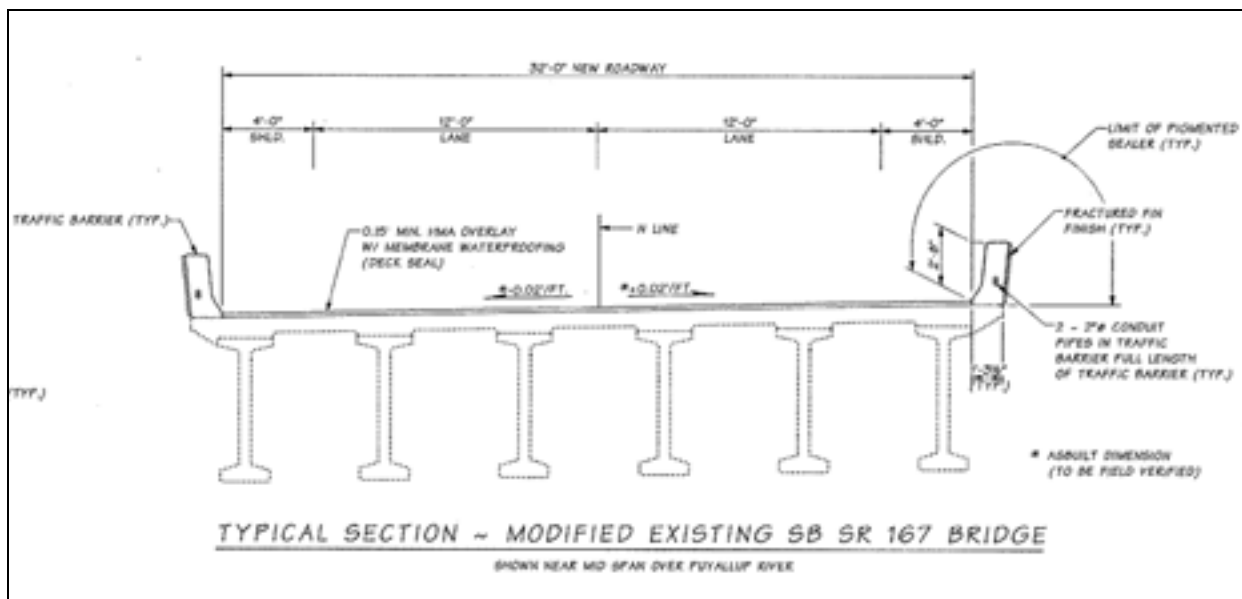


Exhibit 9 – Cross Section of Proposed 1970 Bridge (modified for northbound lanes)

This interim phase is the currently proposed Puyallup River Bridge Replacement project. (See **Exhibit 10 – Completed Proposed Puyallup River Bridge Replacement project.**)



Exhibit 10: Design Visualization of Completed Proposed Puyallup River Bridge Replacement project

Once funding is obtained for completion of the 167 Extension project, the Puyallup River crossing design would be finalized:

- Traffic would first be reduced to one lane in each direction and shifted onto the new bridge west of the 1970 bridge.
- The 1970 bridge would then be used to stage materials and equipment to construct the first two lanes of the proposed five-lane bridge to the east.

- Once the first two lanes of the five-lane bridge are constructed, materials and equipment would be staged there and the 1970 bridge would then be demolished to make room to finish construction of the remaining three lanes of the five-lane bridge.

Exhibit 11 below illustrates the final alignment of the Puyallup River crossing once the 167 Extension project is completed with future funding.

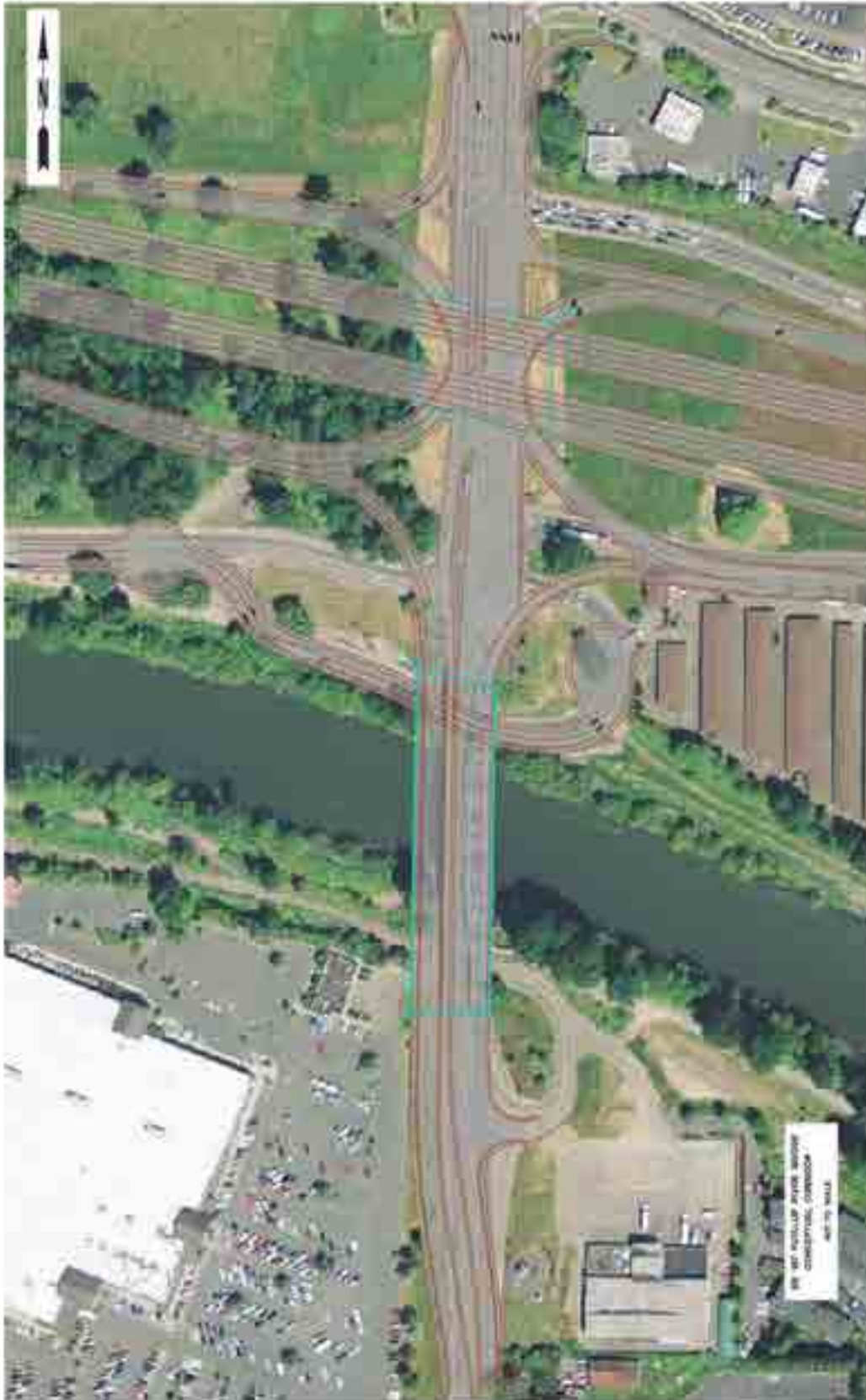


Exhibit 11 – Proposed Final SR 167 Extension Puyallup River Crossing Alignment

2.6 What are the benefits of the proposed revisions to the Puyallup River crossing design?

With the proposed changes to the design and construction plan, the Meridian Street Bridge will not need to be demolished in order to initiate construction. This will allow more time for WSDOT to finalize plans or advertise the availability of the historic steel truss structure for use off site and preserved as a part of a pedestrian and bicycle trail system.

Shifting the crossing structures to the west removes the impact to roads accessing the business northeast of the bridge, and allows for the preservation of the parking lot southwest of the bridge, with the construction of a retaining wall.

The proposed PRBR design will serve existing traffic, and will better accommodate the ultimate configuration of the proposed SR 167/SR 161 interchange and proposed five-lane northbound bridge of the 167 Extension project. When funding becomes available to complete the 167 Extension project at a later date, construction crews will be able to utilize the footprint of the Meridian Street Bridge to construct the first two lanes of the five-lane northbound bridge. By building a new two-lane southbound bridge as a part of the PRBR project as opposed to building two lanes of a future five-lane northbound bridge, the risk of future design and constructability issues are reduced. If the proposed PRBR project constructed only two lanes of a future five-lane northbound bridge, the design would have to be compatible with expansion to a future five-lane configuration. Widening a structure often presents design and constructability challenges, in addition to managing the ongoing revisions to structural design standards and changes to seismic code. The proposed PRBR design is the best solution with the current preservation funding, in terms of engineering feasibility, traffic operation, and environmental impacts.

Chapter 3 – Affected Environment, Impacts & Mitigation Measures

Roadway projects can potentially affect the natural environment (wetlands, vegetation, fish and wildlife, etc.), the built environment (residential areas, businesses and supporting infrastructure such as roads and services), and the social and economic conditions of an area. This chapter discusses those areas relevant to the Puyallup River crossing design revisions, the PRBR project, any changed conditions from the time of the 2006 FEIS, and the measures to be taken to mitigate adverse impacts.

3.1 How are environmental effects considered?

The following aspects of relevant potential environment effects are considered:

- **Direct temporary or short term** – These effects are typically related to a construction activity and go away when the construction activity stops.
- **Direct permanent or long term** – These effects are more lasting and are associated with the completed project. These effects are often called operational effects because they are associated with the opening and operation of the roadway.
- **Indirect** – Also known as secondary impacts, indirect effects are caused by the project and occur at a later time or some distance from the project.
- **Cumulative** – These are incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions.

3.2 What are mitigation measures?

Using mitigation measures is a way for a project to lessen the effects and impacts of the Proposed Action. When impacts are unavoidable, we evaluate ways to compensate for these impacts. For example, compensating for unavoidable impacts such as wetland fill impacts or stream buffer clearing often means that a project will propose to enhance, restore, or create these important features somewhere else.

3.3 What types of environmental impacts are evaluated in this Final Supplemental EIS?

This document supplements the 2006 FEIS by evaluating the environmental impacts associated with the PRBR as part of the 167 Extension project. The following resources were determined to be relevant to the changed conditions and revised design of the bridge replacement:

- Archaeological and Historic Resources (Section 106, and Section 4(f))
- Threatened and Endangered Species
- Water Resources
- Traffic

These aspects of the project are summarized in this document, and corresponding discipline reports or other supporting documentation is attached.

3.4 Archaeological and Historic Resources

Federal regulations, particularly Section 106 of the National Historic Preservation Act of 1966 and Section 4(f) of the Department of Transportation Act of 1966, require identification and evaluation of historic properties, including archaeological sites, within the Area of Potential Effect (APE) of proposed federally aided or sponsored projects. Projects must make every effort to avoid impacts to properties or sites that are listed, or are eligible for listing, on the National Register of Historic Places. A cultural resources survey and report is performed, which seeks to identify archaeological and historic resources within the project APE, assesses any identified cultural or historic resources, and recommends measures for avoidance, or minimization of impacts to these resources. If impacts cannot be avoided, the report recommends mitigation measures.

3.4.1 How is the Area of Potential Effects different?

The APE defined for the 167 Extension project did not encompass the entire area that will be affected by the revised river crossing design of the PRBR project. WSDOT defined the APE for the 167 Extension project to include an area of direct effects within a 200 foot offset on either side of the proposed highway centerline, as well as any additional right of way required for interchanges, stormwater facilities and mitigation sites. The vertical extent of this area of potential direct effects was considered to be three feet. The APE also included an additional 200 foot offset, extending 400 feet from either side of the centerline, to account for potential indirect visual or audible effects.

WSDOT has revised the horizontal and vertical APE, for the supplemental survey, to include the revised bridge alignment to the west of the 1970 bridge. The APE encompasses all areas where ground disturbing activities associated with the proposed new bridge would occur, four feet deep in general, extending to 100 feet deep at the bridge abutment areas. The APE also includes the area within which the historic bridge and adjacent historic structures may be directly or indirectly affected by the project. **(See Exhibit 12)**



Exhibit 12 – Area of Potential Effects, (showing locations of previous survey work, and survey locations within the present study.)

Only the revised river crossing design study area, which encompasses the proposed PRBR project, was surveyed for the supplemental report. Any other areas of the 167 Extension project APE requiring Section 106 review or reevaluation will be addressed during future project phases.

3.4.2 What new studies and consultations have been undertaken?

Consultation with area tribes was reinitiated as soon as it was known that the APE may be revised. See Section 4.2 for more detail on consultation and coordination with tribes. A cultural resources survey was performed within the additional APE, and a report that supplements the previous cultural resources survey for the 167 Extension project, was completed in August 2012. The change in the current PRBR project is that the Meridian Street Bridge is eligible for listing on the NRHP, while it had not been determined eligible when the 2006 Final EIS was prepared. Therefore, the report includes the finding of an adverse effect to the historic bridge. The State Historic Preservation Officer (SHPO) concurred with WSDOT's determination of eligibility and affect call. Since historic resources are also Section 4(f) resources, an addendum to the Section 4(f) evaluation was completed. See Chapter 5 of this Final Supplemental EIS for discussion of the Section 4(f) evaluation. See Appendix A for the cultural resources survey and Appendix B for the addendum to the Section 4(f) evaluation, for more detail.

3.4.3 What archaeological or historic resources have been identified in the APE?

No archaeological resources were identified within the extended area. Of the historic resources recorded within the APE, only the Meridian Street Bridge was determined to be eligible for listing on the NRHP. Reevaluation of the bridge for the supplemental survey yielded additional information on the unique nature of its design. The Meridian Street Bridge is currently the longest, simply supported, steel riveted Warren through truss span built prior to 1940 remaining on the Washington State highway system. The popularity of the Warren truss emerged in the late 1930s, and continued through the 1950s. Very few truss bridges were built on state-owned highways after 1960. Although a modest number of Warren trusses still remain on the system, the number has declined. Narrow bridges with restricted vertical clearance, such as through trusses, are routinely replaced by wider concrete bridges.

The Meridian Street Bridge is also significant for its unusual, perhaps unique truss configuration. As a variation from the standard Warren truss' horizontal top chord, the bridge has a parabolic top chord allowing for a longer span length than possible with the standard top chord. The parabolic configuration also avoided the need for heavier, or additional, truss components to reach the entire span length. Its subdivided panels and the addition of longitudinal members at the mid-panel heights in five truss panels achieved both strength and economy of steel. The bridge is significant for its design, which is the only one of its kind in Washington and may very well be unique in the United States if not the world, although additional research would be needed to confirm that conclusion. Despite modest alterations over the years, and additions made for safety and structural improvement, the bridge retains integrity of design, materials and workmanship, and is thus eligible for inclusion in the NRHP under Criterion C. The SHPO concurred with the WSDOT's determination of eligibility on February 8, 2012.

3.4.4 How will the Puyallup River crossing affect archaeological or historic resources?

The Puyallup River crossing would remove the existing NRHP eligible Meridian Street Bridge with either design. The funding for the PRBR project that would replace this bridge has been expedited because of the severe corrosion of the steel members and delamination of the concrete floor beams and piers. The structure is rated as *structurally deficient* based on the floor beam deterioration. The project will take the bridge out of service as part of SR 167, and remove the structure from its current location.

3.4.5 What measures will be taken to minimize effects to the Meridian Street Bridge?

WSDOT has undertaken a complete redesign of the Puyallup River crossing aspect of the 167 Extension project, in order to minimize the adverse effect to the Meridian Street Bridge. The original design required that the Meridian Street Bridge be removed as a first order of work, so that a new bridge could be constructed in its place. The revised design would construct a new bridge to the west side of the 1970 bridge, which allows the Meridian Street Bridge to remain in operation during construction of the new bridge. This also allows more time to achieve agreement on a mitigation plan, and to relocate the structure. WSDOT developed partnerships with the affected local jurisdictions and plans to reuse the Meridian Street Bridge steel truss structure in another location.

3.4.6 What measures will be taken to mitigate effects to the Meridian Street Bridge?

Because of its historic significance, WSDOT pursued ways to preserve the Meridian Street Bridge even though it will need to be removed from its present location. The local jurisdictions (King and Pierce Counties) are exploring the possibility of using the bridge on the Foothills Trail to connect Enumclaw and Buckley across the White River. If this plan does not work out, WSDOT is prepared to store the bridge and market its availability for preservation at an alternate site.

An Amended Memorandum of Agreement (MOA) was developed on May 6, 2013 to stipulate the measures that will be taken to achieve this proposed mitigation. The MOA also stipulates additional Section 106 review of future phases of the SR 167 Extension project in order to ensure that historic properties outside the Meridian Street Bridge, PRBR project area have been adequately taken into account. WSDOT and FHWA will continue consultation with interested parties in order to seek ways to minimize, or mitigate adverse effects to the Meridian Street Bridge that would result from the PRBR project.

3.4.7 Will there be an archaeological monitoring plan implemented during construction?

The Amended MOA developed for this project includes a stipulation that states in part:

“At least 90 days prior to advertising the project for construction, an Unanticipated Discovery Plan (UDP) will be developed which will include any monitoring deemed necessary...”

This UDP will be developed in coordination with SHPO and consulting tribes.

3.5 Threatened and Endangered Species Consultation

WSDOT prepares a biological assessment for each federally funded project, when there are listed species in the area, to evaluate the potential impacts to any threatened or endangered species and the critical habitats for those species. In consultation with the federal regulating agencies, NMFS and USFWS, the biologist develops conservation measures that will be incorporated into the project design or construction plan.

3.5.1 What has changed in the project area?

Since the 2006 Final EIS and associated Endangered Species Act (ESA) Consultation was reviewed, the following conditions have changed within the study area:

- Two additional fish species have been listed as threatened – Puget Sound steelhead and the southern distinct population segment of Pacific eulachon;
- Bull trout critical habitat has been designated within the project area; and,
- Bald eagle was de-listed.

Pacific Eulachon

Nineteenth century references that mention abundant eulachon in Puget Sound are now believed to be results from misidentification with either the common longfin smelt or surf smelt. Twentieth century collection records support the rarity of eulachon in Puget Sound and rivers like the Puyallup. Relatively recent work on the biology, status, and trends in marine forage fish by WDFW notes the lack of life history information on eulachon in Puget Sound and their work shows no evidence of spawning stocks of eulachon in Puget Sound rivers. We did locate one record of a eulachon capture during the monitoring of the Gog-le-hi-te wetlands located downstream near the mouth of the Puyallup River. The potential effects to eulachon were determined to be discountable by both the WSDOT/FHWA and the NMFS. “Discountable” is an ESA specific term appropriately used when effects are extremely unlikely to occur because the exposure of listed species is extremely unlikely. The rarity of eulachon in the Puyallup River, and the greater Puget Sound supports this determination. The nearest designated eulachon critical habitat is located in the Elwha River, well outside the action area for this project. There is no possibility of the project affecting the nearest designated critical habitat.

The proposed Puyallup River crossing design revision does not change the general habitat involved, which includes the river and riparian zone. The original design and the new design all fall within a footprint less than 200 feet wide.

3.5.2 What new studies and consultation have been undertaken?

WSDOT consulted with NMFS and USFWS regarding the proposed design changes involved with the Puyallup River crossing, and the proposed PRBR project. An update to the biological assessment has been prepared and submitted to the Services for their review on 07/25/2012, which evaluates the potential impacts with the revised design and the changed conditions within the study area. The ESA Section 7 formal update to USFWS has completed the necessary consultation with the service at this time. FHWA and WSDOT reinitiated consultation with NMFS and received NMFS’ biological opinion on 02/07/2013. (The biological assessment update letters and NMFS re-initiation letter are attached, in **Appendix C.**)

3.5.3 Are there any changes to how species might be affected during construction?

The revised design for the Puyallup River crossing does not change the determination on bull trout: *may affect, likely to adversely affect*. However, with the update that has been made to the extent of bull trout critical habitat in the Puyallup River, the determination of *may affect, likely to adversely affect* on bull trout critical habitat is an additional potential effect of the 167 Extension project in the Puyallup River crossing area. The revised design does not change the original determination of *adverse affect* on essential fish habitat. There are no other changes in affect with the revised design.

The revised design will reduce the magnitude of some of the effects (underwater noise, turbidity, shading) for the Puyallup River portion of the action area. Although the specific construction methods will not be known until final plans are available from the contractor, it is anticipated that the number of piles for temporary structures in the Puyallup River may be reduced by 1/3 to 1/2 from the original estimate of 300 piles. This will lead to reduced sound exposure levels for listed and Chinook Salmon, fewer days with in-water pile driving and less associated turbidity, less shaded area in the river, a smaller area of impact to benthic prey organisms and a reduced in-river area for temporary structures that may affect salmonid migration.

The currently proposed PRBR project will only construct a portion of the ultimate Puyallup River crossing. When a future project is funded to remove the 1970 bridge and construct a new five-lane northbound bridge, the study area conditions and project effects will be reassessed and updated.

3.5.4 What conservation measures will be included in the project?

The construction of the PRBR project and future construction associated with the revised Puyallup River crossing would implement WSDOT standard construction practices to avoid impacts to water quality and thereby impacts to aquatic life and habitat. Additional design work on stormwater best management practices (BMPs) is in progress and staff will be conducting a stormwater analysis as plans develop. Preliminary plans call for placement of a biofiltration swale within the northwest bridge quadrant; a feature of the revised design for this phase of work. Two existing bridge outfalls will also be relocated, with no additional outfalls being constructed. Final plans will be developed by the design-build contractor and will meet or exceed the design standards specified in the biological opinions, including the use of enhanced BMPs for this area. To limit in-water noise levels, piling is required to be installed to the degree possible using a vibratory hammer and impact driving/proofing will require noise reduction measures. In-water work will be timed to avoid adult salmon, bull trout and steelhead migration. Full containment will be required during demolition work to prevent debris from falling into the river. Additionally, the project will follow the provisions of all applicable permits and approvals (**See Section 1.8**).

The new Puyallup River bridge will have open space for wildlife passage on either end of the bridge consistent with what is there now. Wildlife that may be present currently has access under both ends of the bridges via the levees, roads, trail, and riparian habitat.

The final 167 Extension project may create additional wildlife connectivity barriers in this area that is already compromised with barriers (roadways) and is rapidly losing habitat to development. While the Tier II FEIS predates WSDOT's Executive Order 1031, *Protections and Connections for High Quality Natural Habitats*, the project planning did consider habitat connectivity. For example, the riparian restoration plan includes removal or replacement of undersized culverts to improve impeded corridors. Additionally, the plan will link fragmented upland habitats that extend well beyond the project limits.

An impact minimization measure the FHWA/WSDOT committed to during ESA consultation is that we will “use stream simulation and other currently approved design criteria, so that new stream crossing structures will not impede fish passage and will facilitate wildlife passage where possible.” As segments of the corridor are funded and designed, the feasibility and benefit of wildlife passage will be considered.

3.6 Water Resources

3.6.1 What is similar between the 2006 FEIS and the proposed design in terms of water resources?

There would be no difference in the amount of impervious surface with the completed project. The revised design would not differ in impacts to ground water or surface water. Within the very limited extent of river and shoreline involved in this study area, there is no difference in permanent impacts or mitigation of the completed Puyallup River crossing portion of the 167 Extension project with either alignment of the structures. The habitat is uniform within the original and current effect limits, thus there are no differences in the quality or sensitivity of water resources/aquatic habitat at the new location 10 feet downstream. Both designs would remove the Meridian Street Bridge, and ultimately construct a new five-lane northbound bridge structure.

The 2006 FEIS presented only a preliminary design for the new bridge structure, but estimated a maximum of four permanent piers located within the ordinary high water mark of the river (2006 FEIS p. 2-23). With in-water work restricted to a six week window (July 15 – August 31), in-water work is expected to span two construction seasons. These aspects of the Puyallup River crossing are not expected to be different, since no further design of the five-lane northbound structure has been developed.

3.6.2 What are the differences between the 2006 FEIS and the proposed design in terms of water resources?

To construct the bridge replacement as proposed in the 2006 FEIS, two temporary trestles and one temporary detour bridge would be necessary. It was originally expected that one of the temporary work trestles would need to extend the full width of the river. Each temporary structure would involve installation and removal of multiple piles. Additionally, construction of two temporary in-water work trestles and a temporary traffic detour bridge would take two years, given the 6-week in-water work window (July 15 – August 31). The 2006 FEIS design had a maximum of two in-water piers.

In the proposed PRBR design, the work would shift the new bridge to the west approximately 10 feet downstream of the existing concrete bridge, instead of where the existing steel bridge is located. The new bridge design has one in-water pier. By relocating the new bridge, work can be done on the new bridge by staging equipment on the existing concrete bridge. This will eliminate the need for one in-water work trestle and the temporary traffic detour bridge. The proposed project will require the construction of an in-water work trestle approximately 30' by 100', as opposed to a 30' wide trestle adjacent to the entire length of the existing steel bridge, as proposed in the 2006 FEIS. This in-water work trestle will extend from the ordinary high water mark on the river bank, into the Puyallup River and will be used to construct the in-water bridge pier. Due to the configuration of the design for the new bridge, the need for a detour bridge has been eliminated.

The new design has several benefits over the 2006 FEIS design with respect to water resources/aquatic habitat. With only one in-water pier, the new design will have reduced permanent impacts to the Puyallup River. With no detour bridge needed and only one smaller temporary in-water work trestle the new design will reduce temporary impacts. Less pile driving means less turbidity and reduced noise impacts to listed species. Also, with only one temporary in-water work trestle, total construction time is reduced so that the *duration* of temporary impacts is also reduced. For example, the duration that the temporary in-water work trestle is in place and producing shading will be greatly reduced. Likewise, fewer days with in-water pile driving will be required.

3.6.3 How will water resources be affected during construction of the Puyallup River Bridge Replacement project?

The proposed PRBR project would construct a new two-lane bridge to the west of the 1970 bridge. The preliminary design for the proposed new two-lane southbound bridge has one permanent in-water piers. This design will allow for material and equipment to be staged off of the 1970 bridge, reducing the need for a work trestle to access the in-water piers to a 30' by 100' work platform. No temporary detour structure will be required since the new structure would be built off line, while both north and south-bound traffic is temporarily diverted to the Meridian Street Bridge during construction. This minimizes impacts to the river and shoreline.

Best management practices, permit conditions, and other measures to avoid or minimize impacts to the water during construction will be the same as they would be with the previous bridge replacement design.

3.7 Traffic

The traffic study to predict the baseline traffic and growth rate for the 2006 FEIS was reported in the 2008 Traffic Analysis Report by Perteet, Inc. This analysis used 2005 traffic volumes for the baseline, and projected volumes to year 2030. In May 2012, WSDOT updated this analysis using 2011 traffic data as a baseline, and projected volumes to year 2035, to determine the need for additional analysis. The finding was that the traffic modeling results in the 2008 analyses are higher than the updated results. Therefore, it was determined that the revised design for the Puyallup River crossing would not negatively affect traffic. The technical memorandum is attached in Appendix A.

3.7.1 What is similar between the 2006 FEIS and the proposed design in terms of traffic?

The ultimate Puyallup River crossing configuration, as part of the 167 Extension project, would require two southbound lanes and five northbound lanes. The northbound lanes would include two left-turn, one through, and two right-turn lanes connecting to the proposed SR 167/SR 161 interchange, located just north of the river crossing bridge. The Meridian Street Bridge is currently rated structurally deficient. With either design, the Meridian Street Bridge would be taken out of service for vehicular traffic, and removed from its location.

With either Puyallup River crossing design, the new replacement bridge will provide at least standard sidewalks and meet Americans with Disabilities Act requirements. With either Puyallup River crossing design, the proposed project will maintain all connections with local roads and will be compatible with the proposed new interchange.

3.7.2 How will the currently proposed PRBR project affect traffic during construction?

During construction, there will be short term closures or lane restrictions on some local roads and access points. These restrictions will be very limited due to the proposed bridge design that constructs the new bridge to the west of the 1970 bridge, while the existing bridges remain open to traffic. Bicycle and pedestrian traffic will be maintained throughout construction.

The likely material haul routes will be SR 167 and SR 410 to access local material sites, and Valley Avenue to access pre-cast facilities at the Port of Tacoma. WSDOT is not anticipating the need to use local roads for the operation of construction equipment and hauling trucks.

3.8 Indirect and Cumulative Effects

The 2006 FEIS discussed indirect and cumulative impacts with regard to each resource in Chapter 3. The cumulative impacts on critical resources were discussed in Chapter 3.17. The proposed revised design of the Puyallup River crossing as part of the 167 Extension project will not change the indirect and cumulative effects of the 167 Extension project.

3.8.1 How did the project team consider future conditions related to climate change?

WSDOT acknowledges that effects of climate change may alter the function, sizing, and operation of our facilities. To ensure that our facilities can function as intended for their planned 50, 70, or 100 year lifespan, they should be designed to perform under the variable conditions expected as a result of climate change. For example, drainage culverts may need to be resized to accommodate more intense rainfall events or increased flows due to more rapid glacial thawing.

The Pacific Northwest climate projections are available from the Climate Impacts Group at the University of Washington <http://cse.washington.edu/cig/fpt/ccscenarios.shtml>.

Washington State is likely to experience over the next 50 years:

- Increased temperature (extreme heat events, changes in air quality, glacial melting)
- Changes in volume and timing of precipitation (reduced snow pack, increased erosion, flooding)

- Ecological effects of a changing climate (spread of disease, altered plant and animal habitats, negative impacts on human health and well-being)
- Sea-level rise, coastal erosion, salt water intrusion

The project team considered the information on climate change with regard to preliminary design as well as the potential for changes in the surrounding natural environment. The project is designed to last 70 years. As part of its standard design, this project has incorporated features that will provide resilience and function with the potential effects brought on by climate change.

- The proposed bridge will be designed to accommodate a 100 year flood event. **(See Plan Sheet 1 of Appendix D.)**
- During construction the Design Builder will be required to implement policies to reduce greenhouse gas emissions and efficient energy use will be encouraged.
- The Puyallup River Bridge Replacement project is designed to accommodate the future SR 167 Extension project, which is intended to reduce congestion, provide improved system continuity between the SR 167 corridor and SR 509, and maintain or improve air quality within the corridor to ensure compliance with the current State Implementation Plan and all requirements of the Clean Air Act.

Chapter 4 Public, Agency and Tribal Coordination

WSDOT will continue to meet with regulatory agencies and interested parties to resolve any environmental issues that may occur during project design and construction.

4.1 Consultation with the Public

Extensive consultation with the public and interest groups was conducted during the 2006 FEIS process. The information is available in Chapter 1 of the SR 167, Puyallup to SR 509 2006 Final EIS. WSDOT provided the SR 167, Puyallup River Bridge Replacement Draft Supplemental EIS to the public and agencies for their comments. Comments received informed the completion of this Final Supplemental EIS.

WSDOT created a webpage for the PRBR project in November 2011 to provide current information about the project, and contact information for the design office. The project webpage was updated every month to highlight progress on the project.

WSDOT met with the Puyallup Valley Kiwanis in April 2012 to discuss the project with them. WSDOT will meet with any interested groups and provide project information.

During construction, WSDOT will coordinate with the Pierce County Sheriff, Washington State Patrol, and local emergency services.

4.2 Consultation with Tribes

WSDOT is committed to government-to-government consultation with interested tribes in the project area. The consultation process under Section 106 of the National Historic Preservation Act (16 USC 470f and 36 CFR 800) is continuing with the current PRBR project. WSDOT follows the Model Comprehensive Tribal Consultation Process for the National Environmental Policy Act (information available on the WSDOT Web site) when coordinating with tribes. This model provides a consistent method of tribal consultation and opens a channel of communication between WSDOT and tribes whose area of interest is within the project boundaries.

The Puyallup Tribe was interested and involved during the Tier II EIS process. At that time, a Section 106 MOA was developed in consultation with the Puyallup Tribe and with other consulting parties. In November 2011, WSDOT met with Brandon Reynon, Puyallup Tribe Archaeologist and Bill Sullivan, Puyallup Tribe Natural Resources Manager, as the PRBR project planning was beginning. Consultation with Muckleshoot Tribe, Squaxin Island Tribe, and Yakama Nation, was also reinitiated in the early stages. In January 2012, all interested area tribes were asked to review and comment on the APE that would be surveyed for archaeological and historic resources. In March 2012 Brandon Reynon, of the Puyallup Tribe of Indians, attended the initial Section 106 Consulting Parties meeting for this phase of work. The concerns of the Tribe presented at this meeting included: possible impacts to fish habitat or tribal fishing during construction and any impacts to native archaeological sites within the project's APE. WSDOT committed to scheduling further meetings for the consulting parties and to continuing communicating with the Tribe. The cultural resources survey report was sent to all four tribes on September 5, 2012 for their review and comments. WSDOT will also request each interested tribe to be involved in all revisions to the MOA that are developed as a mitigation measure for the adverse effect on the Meridian Street Bridge.

4.3 Consultation with Agencies

WSDOT coordinates with agencies that are responsible for issuing environmental permits and who have special expertise in project related environmental fields. This coordination is accomplished through e-mails, verbal contacts and official letters. In addition to coordination on the environmental analyses discussed in Chapter 3, the following agencies were invited to provide comments on the Draft Supplementary EIS:

- Federal Highway Administration
- City of Puyallup
- King County
- Pierce County
- Washington State Patrol
- US Army Corps of Engineers
- United States Department of Interior
- Washington State Department of Fish & Wildlife
- Washington State Department of Ecology
- United States Environmental Protection Agency
- United States Fish & Wildlife Service
- National Oceanic and Atmospheric Administration-
National Marine Fisheries Service
- Washington State Department of Archaeology & Historic
Preservation

Extensive consultation was done with agencies during the 2006 Tier II EIS process. The coordination efforts with different agencies have been documented in Chapter 1 of the SR 167, Puyallup to SR 509 Tier II 2006 FEIS.

WSDOT met on December 2011 with the City Manager of Puyallup to discuss the preliminary design and the status of the PRBR project. In January 2012, the project details were presented to the Puyallup City Council. The Puyallup City Council was provided with a project update on September 4, 2012.

WSDOT coordinated with the King County Capital Project Manager to discuss the project and potential re-use of the steel truss structure as a pedestrian bridge for the Foothill Trail. WSDOT is also coordinating the project with the Pierce County Civil Engineer.

WSDOT also met with the Pierce County public television station to produce a video feature that discussed the project. The story was aired in April 2012 on 'Rainier Country.'

An update to the biological assessments (BAs) for NMFS and USFWS was developed under guidance of Section 7 of the Endangered Species Act. The BAs consider how the project will affect species listed on or eligible for listing on the federal Endangered Species List. The BA updates were sent to the services on July 25, 2012. FHWA and WSDOT provided an update to USFWS, which concluded consultation, as reinitiation was not requested. Reinitiation was requested with NMFS and their Biological Opinion was received on February 7, 2013.

Section 106 Consultations

The SR 167 corridor extension project underwent National Environmental Policy Act (NEPA) and Section 106 review between 1991 and 2006. The resulting NEPA review documented Section 106 consultation culminating in execution of an MOA. While the corridor extension project had always proposed replacement of the Meridian Street Bridge, it was not deemed eligible for the NRHP at the time of the 2006 FEIS and Section 106 consultation. Funding for an interim phase of the corridor extension project was dedicated by the 2011 legislature to address structural deficiency found to exist with the Meridian Street Bridge.

Through a December 20, 2011 letter to SHPO, WSDOT initiated ongoing consultation on a slightly refined APE for this funded phase of the SR 167 Extension project. WSDOT also determined the Meridian Street Bridge to be eligible for the NRHP at that time.

Archaeological fieldwork for this phase of work was performed between March and May and the cultural resources discipline report was finalized on August 2, 2012. On August 28, 2012, the cultural resources discipline report was provided to DAHP for review and SHPO concurrence with the determination of Adverse Effect for the project, due to the anticipated effects to the Meridian Street Bridge. SHPO concurred with the determination of Adverse Effect on October 8, 2012.

WSDOT and FHWA work with consulting parties and seek the views of the public as part of the Section 106 decision making process. Consulting parties for this project include SHPO, the local tribes (Muckleshoot Tribe, Puyallup Tribe, Squaxin Island Tribe, and Yakama Nation) local governments, several organizations and individuals with a demonstrated interest in historic bridges and their preservation. To date, WSDOT and FHWA have convened four meetings (March 26, June 20, October 9, and November 27, 2012) with consulting parties to resolve adverse effects to the Meridian Street Bridge.

- **3/26/12 Initial Section 106 Consultation Meeting** – Project description and background were presented along with a preservation strategy for the historic Meridian Street Bridge that would have it moved and re-erected on the Foothills Trail. WSDOT agreed to share the engineering estimate of cost and feasibility of moving the bridge for use on the Foothills Trail, with the consulting parties once it is complete. WSDOT also agreed to maintain regular communications with the consulting parties, including scheduling another meeting and to continue exploring preservation strategies for the bridge.
- **6/20/12 Section 106 Consultation Meeting** – Consulting parties met again to discuss the project. The completed engineering estimate to move the bridge and re-erect it for use on the Foothills Trail was presented. Representatives from King and Pierce Counties presented details of possible funding opportunities to fund the Foothills Trail preservation option.
- **10/9/12 Section 106 Consultation Meeting** – Status of Foothills Trail preservation option was discussed. King County, Pierce County, City of Buckley and City of Enumclaw are all committed to seeking funding to use the Meridian Street Bridge to complete the Foothills Trail. SHPO concurrence of Adverse Effect was discussed as well as items that should be covered by an MOA resolving adverse effects to the Meridian Street Bridge. Draft MOA was distributed. Consulting parties agreed that the best option for saving the bridge is moving it from its current location onto dry land as part of the SR 167 Puyallup River Bridge Replacement project and seeking funding to reuse the bridge on the Foothills Trail.
- **11/27/12 Section 106 Consultation Meeting** – The second draft MOA and Meridian Street Bridge Treatment Plan were discussed, and the consulting parties provided comments and suggestions for improvement of the MOA and Treatment Plan.

WSDOT and FHWA will continue Section 106 consultation to resolve these adverse effects. Per the existing project MOA, which is being amended to resolve adverse effects to the Meridian Street Bridge, and per standard operating procedures, WSDOT will, on behalf of FHWA, review the SR 167 corridor APE as future phases begin final design in order to take into account their effects on historic properties.

Chapter 5 – Section 4(f) Evaluation

Section 4(f) of the Department of Transportation Act of 1966, codified in Federal law at 49 U.S.C. §303, declares that it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. Section 4(f) specifies that the Secretary of Transportation may approve a transportation program or project ... “requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- (1) There is no feasible and prudent alternative to using that land; and
- (2) The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.”

WSDOT evaluated the Section 4(f) resources for the State Route 167 Extension project in Chapter 5 of the 2006 FEIS. Five historic properties and one archaeological site eligible for listing in the NRHP and six recreational areas were identified as eligible or potentially eligible Section 4(f) resources that would be *used* by the project. The Section 4(f) evaluation report was prepared and was available as Appendix “H” of the 2006 FEIS.

This phase will replace the Meridian Street Bridge (167/20E) and is a small phase of the larger SR 167, Extension project. This Puyallup River steel truss bridge was not eligible for the NRHP in 2006 when the 4(f) evaluation was prepared. Now it is determined eligible for NRHP.

An addendum to the original Section 4(f) evaluation is now prepared for the Puyallup River Bridge which will be available in Appendix B of this Final Supplemental EIS.

5.1 What are the additional Section 4(f) resources?

During a recent review of the status of the SR 167 Puyallup River steel truss bridge, WSDOT determined the bridge is now eligible for listing in the NRHP. The State Historic Preservation Officer (SHPO) has also concurred with WSDOT’s determination.

5.2 What is the background and description of the Section 4(f) resources?

The SR 167 Puyallup River Bridge is designated bridge number 167/20E by the Washington State Department of Transportation and it is located at milepost 6.40 just outside the City of Puyallup. The existing steel truss bridge, built in 1925, is structurally deficient; the steel members are exhibiting severe corrosion and the concrete deck and piers are delaminating.

The Puyallup River Bridge is 371 feet long. The traveled lane width on the bridge is 21 feet from curb to curb with a 5 foot wooden sidewalk structure attached to the right side of the bridge. In January of 2011, WSDOT implemented a load restriction requiring vehicles larger than 10,000 pounds gross vehicle weight to use the right lane only. This was due to floor beam deterioration detected during a routine bridge inspection. In addition, the width of the bridge does not meet current standards for lane and shoulder widths, which is problematic due to the high volume of truck traffic that utilizes the bridge. As a result, the bridge is repetitively damaged due to traffic impacts to the barriers and sides of the bridge, which adds to the need for replacement of this structure.

The structure is rated as *structurally deficient* based on the floor beam deterioration. Due to the magnitude of deterioration of the structure, annual maintenance costs will begin to rise dramatically unless major rehabilitation of the structure occurs.

Since original construction of the bridge in 1925, two major projects have taken place to lengthen the life span of the bridge. The first project occurred in 1951, and it replaced the approach spans with new wooden truss structures. In 1991 a second project took place that added new horizontal members to the main steel truss structure, replaced the end bearings, replaced the expansion joints and overlaid the slab. Since those projects have occurred, routine maintenance has occurred with repairs consisting mainly of replacing sheared rivets and spalled concrete.

5.3 What are the avoidance measures taken to protect Section 4(f) resources?

The goal of this phase is to provide bridges and a roadway profile compatible with the larger SR 167 Extension project, which is currently in the preliminary engineering stage and for which new right of way has been acquired.

Several alternatives to removing the bridge, and avoiding a Section 4(f) resource, have been considered. No alternative to removing the bridge was determined to be a feasible and prudent alternative to the use of the Section 4(f) resource. Alternatives considered include: *No Build, Rehabilitation of the Existing Steel Truss, Preserve Steel Truss / Construct New Bridge & Alignment and Remove Steel Truss / Construct New Bridge.*

- The *No Build* alternative is not prudent because it does not meet the project's purpose and need. Specifically, the *No Build* would not provide a structurally sufficient bridge that meets current standards, would not accommodate an interchange, and would not accommodate truck traffic on SR 167.
- *Rehabilitation of the Existing Steel Truss* was also rejected in the EIS as five lanes will be necessary for the ultimate configuration of northbound traffic instead of the present two lanes. The rehabilitation issue was again considered for this phase of work and concerns are identified below.
- The *Preserve Steel Truss / Construct New Bridge & Alignment* alternative would construct a new bridge on an alternate alignment, and preserve the existing steel truss bridge in place. This alternative is not feasible or prudent due to the challenges related to maintaining the structural integrity of the bridge for an extended period of time, lack of funding required to maintain the bridge and because the bridge must be removed to construct the ultimate SR 167/161 interchange.
- The *Remove Steel Truss / Construct New Bridge* alternative would construct a new bridge in place of the existing steel truss. This alternative would not avoid the use of the Section 4(f) resource. Additionally, because the bridge would have to be removed as a first order of work, it would constrain the amount of time WSDOT would have to locate a site to preserve the bridge and secure the necessary funding from a third party.

Rehabilitation of the bridge is not a feasible and prudent alternative to use of the Puyallup River Bridge/Meridian Street Bridge. There are two primary issues to address in considering preserving the steel truss Puyallup River Bridge in its current use for vehicular traffic. The first and immediate concern is the deteriorated condition of the floor beams. Replacing the floor beams would be very costly and would cause significant short term traffic and environmental impacts. Also, the steel truss does not meet the current seismic code and will require extensive seismic retrofit work. This work would create significant aesthetic impacts to the truss, thus impacting its historic value. The second issue involves capacity and safety concerns. The current bridge width is too narrow to safely carry two lanes of traffic, in particular considering the high volume of truck traffic. To widen the structure, virtually all of the horizontal steel members would need to be replaced and the layout of the members would also change. This drastic change to the steel truss would virtually eliminate its historical value.

The project team investigated the surrounding area to determine if the steel truss could be moved upstream and utilized as a pedestrian facility. There are no pedestrian facilities or destinations on the north side of the river, so it is not likely the bridge would be utilized by pedestrians in the vicinity of its present location. In addition, there would be significant right of way costs associated with moving the bridge to a location near where it is currently.

Therefore, there is no feasible and prudent alternative to the use of Puyallup River Bridge/Meridian Street Bridge.

5.4 What are the measures taken to minimize the harm to Section 4(f) resources?

DAHP concurred with the determination of Adverse Effect on October 8, 2012. All prudent measures have been considered to minimize harm and to provide necessary mitigation of Section 4(f) property as detailed below: (FHWA and WSDOT will negotiate with DAHP before finalizing.)

1. WSDOT will arrange to remove from its current location, store and maintain the NRHP eligible steel truss structure to preserve it for an alternate use.
2. The documentation of the Puyallup River steel bridge will be completed in accordance with the Historic American Engineering Record standards.
3. Agreement between SHPO and FHWA has been reached through the Section 106 process of the National Historic Preservation Act and an MOA is being drafted which details measures to minimize harm.
4. In the event it is not economically feasible to re-use the steel truss bridge for the Foothills Trail, WSDOT is prepared to store the bridge and advertise its availability for preservation at an alternate site. The advertisement of the availability of the bridge would occur as soon as it became apparent that the current plan was not feasible. The steel truss would remain in-place until the end of the current project in late 2015, being advertised the entire duration. If no alternative interested parties came forward during that time, WSDOT would remove the steel truss from its current location and store it until 2019 at which time funding for further storage and maintenance of the bridge would be evaluated.

5.5 What type of coordination will be done to mitigate impacts to Section 4(f) resources?

WSDOT has negotiated with King and Pierce Counties regarding the potential for use of the Puyallup River steel truss on the Foothills Trail connecting Enumclaw and Buckley across the White River. King and Pierce Counties were very receptive to the potential preservation of the truss on their trail system and the counties proceeded with further engineering analysis to confirm that the structure could be successfully refurbished and relocated to the trail crossing. The engineering analysis was completed in June of 2012. The result of the analysis was that to re-use the steel truss will cost an additional \$1.6 million more than constructing a new, narrower pedestrian bridge. WSDOT is now working with King and Pierce Counties to apply for grants and obtain funding to bridge the gap in project cost. Preservation and use of the steel truss as a pedestrian facility would be a positive result of the project, and WSDOT will continue to pursue this as the preferred alternative.

Chapter 6 – Comments Received on the Draft SEIS

FHWA and WSDOT issued the SR 167 Puyallup to SR 509, SR 167 Puyallup River Bridge Replacement Draft SEIS on January 7, 2013. The Draft SEIS was circulated to state and federal agencies, interested tribes, local jurisdictions, other interested parties and local libraries where copies were made available for public review.

Comments from three agencies were received on the Draft SEIS. In addition, the Washington State Department of Ecology reviewed the draft and had no comments.

Comments received are listed on the following pages with each response:

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BIA Comment

Sawyer, Jeff

Subject: HWY WA-EIS-2002-02 DE SR 167 Payalup to SR 50 Payalup Bridge Replacement

From: Howerton, B (b.howerton@bia.gov)

Sent: Monday, March 18, 2013 12:54 PM

To: Sawyer, Jeff

Cc: Stanley Sparks; Judith Joseph; Scott Aklin

Subject: FW:WA-EIS-2002-02-DE SR 167 Payalup to SR 50 Payalup Bridge Replacement

Mr. Sawyer,

Per our phone conversation, BIA has reviewed above listed Draft Supplemental EIS, December, 2012, and has no comment on the document. The document is well drafted. Thank you for allowing DOI-BIA the opportunity to comment. If you have any questions please give me a call at (503) 231-6740.

BJ Howerton

Dr. BJ Howerton, MBA
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Environmental Services Mgr.
911 N.E. 11th Avenue
Portland, OR 97232-4109

Telephone: (503) 231-6740
Fax: (503) 231-2273
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E-mail: b.howerton@bia.gov

WSDOT Response

- 1. Comment noted.

1

Dept. of the Interior Comment



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
620 NW Main Street, Suite 201
Portland, Oregon 97205-3026



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ER1342

Electronically Filed

April 8, 2013

Breeden Clark, Project Engineer
PO Box 47440
Olympia, WA 98504-7440

Dear Mr. Clark:

The Department of the Interior (Department) has reviewed the Draft Supplemental Environmental Impact Statement of the SR 167 to SR 509 Puyallup River Bridge Replacement, Pierce County, WA. The Department offers the following comments for your consideration:

Section 4(f) Evaluation Comments

Following our review of the Section 4(f) Evaluation, the Department concurs that there is no feasible and prudent alternative to the use of the bridge and that all measures have been taken to minimize harm to the resource. We acknowledge your consultation with the SHPO and that a Memorandum of Agreement will be prepared which details measures to minimize harm.

We appreciate the opportunity to review this document. Should you have questions about the Section 4(f) Evaluation comments, please contact Alan Schriener, National Park Service, Pacific West Regional Office, 415-623-2315. If you have any other questions, please contact me at 503-326-2489.

Sincerely,

Allison O'Brien
Regional Environmental Officer

cc:
HPWA (dean.moberg@dot.gov)
WSDOT (Meghan.White@wsdot.wa.gov)
SHPO-WA (Allison.Hoskins@shpo.wa.gov)

WSDOT Response

- 2. Comment noted.

EPA Comment



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
ENVIRONMENTAL
TRADING AND PUBLIC
DEFENSE

March 13, 2013

Mr. Dean Mohberg, Area Engineer
Federal Highway Administration
711 South Capitol Way, Suite 501
Olympia, Washington 98501

Mr. Brandon Clacker, Project Engineer
Washington State Department of Transportation
P.O. Box 47440
Olympia, Washington 98504-7440

Re: SR 167 Puyallup to SR 509 - SR 167 Puyallup River Bridge Replacement Draft Supplemental
Environmental Impact Statement (EPA Region 10 Project number: 03-025-FHW),

Dear Mr. Mohberg and Mr. Clacker:

The U.S. Environmental Protection Agency has reviewed the SR 167 Puyallup River Bridge
Replacement Supplemental Environmental Impact Statement. We are submitting comments in
accordance with our responsibilities under the National Environmental Policy Act and Section 309 of
the Clean Air Act. Thank you for involving us in the review process.

The SR 167 Puyallup River Bridge Replacement project is a small phase of the larger SR 167 Puyallup
to SR 509 extension project, for which a Record of Decision was signed in October, 2007. This phase is
a proposal to construct bridges and a roadway profile compatible with the SR 167, Puyallup to SR 509
extension. The current northbound and now historic steel truss Meridian Street Bridge, constructed in
1925, would be replaced with a new concrete bridge on the west side of the existing southbound bridge
for southbound traffic. The deck of the existing southbound concrete bridge would be modified to
handle northbound traffic. The historic bridge would be dismantled and preserved offsite for potential
future use.

Based on the information provided, we are rating the Draft SEIS as EC-2, Environmental Concerns,
Insufficient Information. An explanation of the EPA rating system is enclosed with this letter. The Draft
SEIS for the Puyallup River Bridge Replacement indicates that the findings in the SR 167 Puyallup to
SR 509 Final EIS are unchanged except for issues pertaining to historic resources, water quality, fish,
and traffic. Our comments, concerns and recommendations regarding these subject areas, and additional
project-related issues, are provided below:

Historic Resources

Historic resources are well addressed in the Draft SEIS with the Historic Inventory Report and the
specific discussion of the historic Meridian Street Bridge. We acknowledge the need for the proposed
bridge replacement and support the search for a beneficial use of the historic bridge structure.

WSDOT Response

- 3. Comment noted.

EPA Comment

Water Resources

We commend WSDOT and FHWA for the proposed design changes to the bridge replacement proposal. Based on the brief discussion in the Draft SEIS, it appears that effects to water resources with the current proposed bridge replacement would be less than with the bridge replacement as proposed in the 2006 FEIS. However, the Draft SEIS includes no information regarding the downstream location for shifting the Puyallup River crossing, and does not provide any discussion of the anticipated changes in effects to water resources.

Recommendation:

In the Final SEIS, discuss whether there are any differences in the quality or sensitivity of water resources/aquatic habitat at the revised location 100 feet downstream. Discuss or estimate the changes in effects to water resources from the revised proposal.

Summary: The draft SEIS states (Appendix C, p. 7) that a stormwater analysis will be conducted as plans develop and that enhanced best management practices would be used to meet or exceed specifications in the Biological Opinion.

Recommendation:

In the Final SEIS, provide more information regarding stormwater management and its effects on water quality and threatened fish species.

Climate Change: The Draft SEIS does not address climate change and whether the bridge would be designed to accommodate changes in hydrology or other events that may result from climate change.

Recommendation:

Discuss any design changes or adaptations to climate change in the Final SEIS.

Threatened Fish Species

Two more species of fish have become listed as threatened under the federal Endangered Species Act since the SR 167 Final EIS was issued in 2006. They include Puget Sound steelhead and the Southern Distinct Population Segment of Pacific cutthroat. WSDOT states (Appendix C, page 8) that Pacific cutthroat use of the Puyallup River and other water bodies in the action area is "discontinuing" and that there would be no effect on cutthroat critical habitat. We are concerned that there is little information presented in the Draft SEIS to support this conclusion.

Recommendation:

In the Final SEIS, provide more information regarding the historic and current use of the Puyallup River watershed by Pacific cutthroat, a more complete basis for discontinuing its presence if that is appropriate, and the type and location of designated critical habitat for the southern distinct population segment. Include the updated Biological Opinion as an Appendix.

Tribal Treaty Rights

The Draft SEIS (p. 46) indicates the concerns of the Puyallup Tribe include possible impacts to fish habitat, tribal fishing during project construction, and potential impacts to native archaeological sites. There is no information in the Draft SEIS to determine whether or not their concerns have been addressed.

WSDOT Response

- 4. The habitat in this area is uniform within the original and current effect limits. (**Section 3.6.1, Final SEIS**)
- 5. This project has been specifically selected by the State Legislature for the Design-build delivery method. As a result, stormwater treatment facilities have not been designed yet. Because of this, performance standards have been developed as part of the ESA consultation to minimize effects on water quality and listed species. The performance standard requires that all stormwater runoff within the project footprint be infiltrated where practicable. If the location is determined to be unsuitable for infiltration or enhanced treatment, these areas will be analyzed for their pollutant loads and dissolved zinc and copper concentrations. This information, along with a treatment plan, will be provided to the NMFS for approval a minimum of 90 days before construction begins. If the analysis predicts potential exceedences of dissolved copper and dissolved zinc concentrations, and then leads to the NMFS disapproval of the revised treatment, reinitiation of consultation is required. (Incorporated by reference from NMFS, Reinitiation of Endangered Species Act Section 7 Consultation, 2/7/2013, **Appendix C Final SEIS**)
- 6. Discussion of design changes/adaptations has been added to the document. **See Section 3.8.1 of the Final SEIS.**

EPA Comment

Water Resources

We commend WSDOT and FHWA for the proposed design changes to the bridge replacement proposal. Based on the brief discussion in the Draft SEIS, it appears that effects on water resources with the current proposed bridge replacement would be less than with the bridge replacement as proposed in the 2006 FEIS. However, the Draft SEIS includes no information regarding the downstream location for shifting the Puyallup River crossing, and does not provide any discussion of the anticipated changes in effects to water resources.

Recommendation:

In the Final SEIS, discuss whether there are any differences in the quality or sensitivity of water resources/aquatic habitat at the revised location 100 feet downstream. Discuss or estimate the changes in effects to water resources from the revised proposal.

Summary: The draft SEIS states (Appendix C, p. 7) that a summary analysis will be conducted as plans develop and that enhanced best management practices would be used to meet or exceed specifications in the Biological Opinion.

Recommendation:

In the Final SEIS, provide more information regarding stormwater management and its effects on water quality and threatened fish species.

Climate Change: The Draft SEIS does not address climate change and whether the bridge would be designed to accommodate changes in hydrology or other events that may result from climate change.

Recommendation:

Discuss any design changes or adaptations to climate change in the Final SEIS.

Threatened Fish Species

Two more species of fish have become listed or threatened under the federal Endangered Species Act since the SR 167 Final EIS was issued in 2006. They include Puget Sound steelhead and the Southern Distinct Population Segment of Pacific eulachon. WSDOT states (Appendix C, page 8) that Pacific eulachon use of the Puyallup River and other water bodies in the action area is "discountable" and that there would be no effect on eulachon critical habitat. We are concerned that there is little information presented in the Draft SEIS to support this conclusion.

Recommendation:

In the Final SEIS, provide more information regarding the historic and current use of the Puyallup River watershed by Pacific eulachon, a more complete basis for discounting its presence if that is appropriate, and the type and location of designated critical habitat for the southern distinct population segment. Include the updated Biological Opinion as an Appendix.

Tribal Treaty Rights

The Draft SEIS (p. 46) indicates the concerns of the Puyallup Tribe include possible impacts to fish habitat, tribal fishing during project construction, and potential impacts to native archaeological sites. There is no information in the Draft SEIS to determine whether or not their concerns have been addressed.

WSDOT Response

- 7. Nineteenth century references that mention abundant eulachon in Puget Sound are now believed to be results from misidentification with either the common longfin smelt or surf smelt. Twentieth century collection records support the rarity of eulachon in Puget Sound and rivers like the Puyallup. Relatively recent work on the biology, status, and trends in marine forage fish by WDFW notes the lack of life history information on eulachon in Puget Sound and their work shows no evidence of spawning stocks of eulachon in Puget Sound rivers. We did locate one record of a eulachon capture during the monitoring of the Gog-le-hi-te wetlands located downstream near the mouth of the Puyallup River.

The potential effects to eulachon were determined to be discountable by both the WSDOT/FHWA and the NMFS. "Discountable" is an ESA specific term appropriately used when effects are extremely unlikely to occur because the exposure of listed species is extremely unlikely. The rarity of eulachon in the Puyallup River, and the greater Puget Sound supports this determination.

The nearest designated eulachon critical habitat is located in the Elwha River, well outside the action area for this project. There is no possibility of the project affecting the nearest designated critical habitat. **(Section 3.5.1, Final SEIS)**

- The updated Biological Opinion is included in Appendix C of the Final SEIS.

EPA Comment

Recommendation:

In the Final SEIS, discuss how the Tribe's concerns are to be addressed and how the full SR 167 Puyallup to SR 509 project would respond to Treaty Rights at Risk. <http://treatyrightsonline.org/>

Traffic

The May, 2012 WSDOT update of the project traffic analysis found that the new projected volumes to year 2035 are lower than what was predicted in the 2008 analysis. (Draft SEIS p. 44; Appendix A, Tech annex). While the new proposed bridge replacement would not negatively affect traffic volumes, the Draft SEIS provides no assessment of positive effects and whether the project design capacity could or should be induced.

Recommendation:

In the Final SEIS, address potential effects of lower traffic projections to project design capacity.

Air Quality – Construction Mitigation Measures

We appreciate that the SEIS mitigation commitments for air quality include measures to address fugitive dust and engine idling. We encourage WSDOT to further refine and augment the construction mitigation measures to include a full suite of strategies to prevent pollution.

Recommendations:

- In order to prevent pollution to soil, surface water, ground water, habitats and birds, use water, rather than oil or chemical degreasers, to control dust.
- In addition to residences, hospitals, and schools, other sensitive receptor locations that should be avoided when locating construction equipment and staging areas include daycare centers, senior centers, parks and other outdoor recreation areas.
- For mitigation measure 1861, consider establishing a time limit after which idling equipment and vehicles should be shut off (such as 5 minutes).
- To further reduce diesel emissions from construction vehicles and equipment, see the EPA Clean Construction website at <http://www.epa.gov/cleanconstruction/> for many examples of construction mitigation measures, case studies, and examples of institutional arrangements for implementing this mitigation.

Wildlife

The riparian corridor of the Puyallup River is important for wildlife use and movement. The Draft SEIS does not indicate whether the new bridge span and design would provide ample room, both horizontally and vertically, to ensure safe passage for terrestrial wildlife species under the bridge.

Recommendation:

Address this issue in the Final SEIS. Work with state and federal wildlife biologists to ensure the new bridge design, and full project build-out, would provide safe passage for wildlife that is suitable for low and high mobility species.

Construction of a new bridge, particularly over water and within an agricultural community, affords an ideal opportunity to provide bat habitat. For little or no cost, WSDOT could incorporate bat roosting habitat in the bridge design, which would be an aid to farmers and to the environment.

WSDOT Response

- 8. WSDOT is committed to government-to-government consultation with all interested tribes. WSDOT follows the Model Comprehensive Tribal Consultation Process for the National Environmental Policy Act (information available on the WSDOT Web site) when coordinating with tribes. WSDOT has initiated consultations with the Muckleshoot Tribe, the Puyallup Tribe, the Squaxin Island Tribe and the Confederated Tribes and Bands of the Yakama Nation. WSDOT is committed to continuing communications with interested tribes and addressing any concerns during the final design and construction, including those noted by EPA.

The Puyallup Tribe, in particular, was involved in consultations during the Tier II FEIS process. They were consulted with regard to the revised APE for the Puyallup River Bridge replacement and were invited to be a concurring party to the May 2013 MOA.

EPA Comment

Recommendation:

In the Final SEIS, discuss how the Tribe's concerns are to be addressed and how the full SR 167 Payalup to SR 500 project would respond to Treaty Rights at Risk. <http://treatyrightsonline.org/>

Traffic

The May, 2012 WSDOT update of the project traffic analysis found that the new projected volumes to year 2035 are lower than what was predicted in the 2008 analysis. (Draft SEIS p. 44; Appendix A, Tech annex). While the new proposed bridge replacement would not negatively affect traffic volumes, the Draft SEIS provides no assessment of positive effects and whether the project design capacity could or should be induced.

Recommendation:

In the Final SEIS, address potential effects of lower traffic projections to project design capacity.

Air Quality – Construction Mitigation Measures

We appreciate that the SEIS mitigation commitments for air quality include measures to address fugitive dust and engine idling. We encourage WSDOT to further refine and augment the construction mitigation measures to include a full suite of strategies to prevent pollution.

Recommendations:

- In order to prevent pollution to soil, surface water, ground water, habitat and birds, use water, rather than oil or chemical degreasers, to control dust.
- In addition to residences, hospitals, and schools, other sensitive receptor locations that should be avoided when locating construction equipment and staging areas include daycare centers, senior centers, parks and other outdoor recreation areas.
- For mitigation measure 1861, consider establishing a time limit after which idling equipment and vehicles should be shut off (such as 5 minutes).
- To further reduce diesel emissions from construction vehicles and equipment, see the EPA Clean Construction website at <http://www.epa.gov/cleanconstruction/> for many examples of construction mitigation measures, case studies, and examples of institutional arrangements for implementing this mitigation.

Wildlife

The riparian corridor of the Payalup River is important for wildlife use and movement. The Draft SEIS does not indicate whether the new bridge span and design would provide ample room, both horizontally and vertically, to ensure safe passage for terrestrial wildlife species under the bridge.

Recommendation:

Address this issue in the Final SEIS. Work with state and federal wildlife biologists to ensure the new bridge design, and full project build-out, would provide safe passage for wildlife that is suitable for low and high mobility species.

Construction of a new bridge, particularly over water and within an agricultural community, affords an ideal opportunity to provide bat habitat. For little or no cost, WSDOT could incorporate bat roosting habitat in the bridge design, which would be an aid to farmers and to the environment.

WSDOT Response

8

- 9. The proposed design is appropriate (not overbuilding or underbuilding). Short term traffic growth has been stunted due to the economic downturn, but long term traffic projections are still anticipated to grow.

9

- 10. The design-build contractor has a responsibility to comply with all current rules of the resource agencies having jurisdiction over the project and will comply with all rules of the local air pollution authorities. A commitments list is included in Attachment A of the ROD. The contractor will be required to meet these requirements along with the WSDOT Standard Specifications. That commitments list and WSDOT Standard Specifications will be used to implement mitigation measures.

10

11

- 11. Added discussion of wildlife connectivity to the document. **See Section 3.5.4 of the Final SEIS.**


EPA Comment

Recommendation:

Design and construct the new bridge to include bat roosting habitat. Visit <http://www.bacon.org/wildbridges/thatbridge2.pdf> and/or consult with Bat Conservation International for effective design information.

Thank you for the opportunity to provide comment on the SR 167 Fossilup River Bridge Replacement. If you have questions or would like to discuss these comments, please contact me at (206) 553-1601 or via electronic mail at reichjot@clinton.ehpa.gov, or you may contact Elaine Somers of my staff at (206) 553-2966 or via electronic mail at elaine.somers@epa.gov.

Sincerely,



Christine H. Reichjost, Manager
Environmental Review and Sediment Management Unit

Enclosure

12

WSDOT Response

- **12.** Due to worker health & safety, and permitting issues associated with maintaining bridges that are inhabited by wildlife species, the Agency maintains a neutral position regarding wildlife on bridges. We neither discourage, nor encourage, the use of bridges by wildlife. If wildlife chooses to use the bridge, their use will not be eliminated unless such use creates a threat to staff or causes damage to the bridge.

Appendix A New Discipline Studies and List of Preparers

Cultural Resources

Craig Holstein & Roger Kiers, WSDOT, Environmental Services Office, August 2012, *State Route 167 Puyallup River/Meridian Street Bridge Phase, SR 167 Extension – Puyallup to SR 509 Freeway Construction Project*
Pierce County, Washington Discipline Report (Short Report DOT 12-10).
(This report is included with the Addendum to Individual Section 4(f) Evaluation in Appendix B.)

Traffic Analysis

Jim Norman, WSDOT, Olympic Region Traffic Office, February 2012, *SR 167 – Puyallup to SR 509 Environmental Impact Statement* Memo.

John Donahue, WSDOT, Olympic Region Planning Office, May 2012, *Traffic forecasting update for the SR 167 Puyallup River Bridge* Memo.

Supplemental EIS – Preparers

Roger Baugh, WSDOT, Olympic Region SR 167 Bridge Replacement
Harjit Bhalla, WSDOT, Olympic Region Environmental & Hydraulic Services
Brenden Clarke, WSDOT, Olympic Region SR 167 Bridge Replacement
Ben Rampp, WSDOT, Olympic Region Environmental & Hydraulic Services
Carl Ward, WSDOT, Olympic Region Environmental & Hydraulic Services
Jeff Williams, WSDOT, Olympic Region Environmental & Hydraulic Services

Supplemental EIS – Reviewers

Alix Berg, WSDOT, Olympic Region Environmental & Hydraulic Services
Brenden Clarke, WSDOT, Olympic Region SR 167 Bridge Replacement
Sharon Love, FHWA Washington Division
Jeff Sawyer, WSDOT, Olympic Region Environmental & Hydraulic Services
Rebecca Smith, WSDOT, Eastern Region Environmental Office
Ernie Combs, WSDOT, Environmental Services Office
Larry Mattson, WSDOT, South Central Environmental Office
Dean Moberg, FHWA Washington Division

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February 1, 2012

TO: Brenden Clarke
47440

THRU: Michael Villnave / Rob Peterson *RV*

FROM: Jim Norman
(360) 357-2633

SUBJECT: SR 167 – Puyallup to SR 509
Environmental Impact Statement

The sections of the above referenced subject relating to the traffic analysis have been reviewed. The traffic analysis supporting documentation is still valid as stated in the document.

If you need additional information or have any questions please call.



DATE 5/31/2012

TO: Brendan Clarke / Olympic Region Project Engineer

FROM: John Donahue, P.E. / Olympic Region Planning Office

SUBJECT: Traffic forecasting update for the SR 167 Puyallup River Bridge

Introduction

At your request, our office performed an analysis the traffic count forecast documented in the reports supporting the SR 167 Extension environmental impact statement and ROD. The purpose of the review was to determine a valid approach to traffic forecasting for the Puyallup River bridge location in 2035. In this review, the 2005 baseline traffic counts and 2030 forecast reported in the 2008 Traffic Analysis Report by Pertect, Inc for the SR 167 build condition are compared to more recent model and count information, in order to verify whether growth rates and baseline traffic assumptions represented in the previous work may have changed at the Puyallup River Bridge location since that report was published. The results show that it would be reasonable to use the previous forecasts for the 2030 build condition at the north leg of the River Rd/Meridian intersection location as the 2035 traffic forecast.

Method

The PSRC model version 1.0bb (May 2008) was used in this comparative analysis. The Pierce County TPU model (January 2008) was also checked to ensure the more conservative result was used. Intersection counts from 2011 provided to WSDOT by the City of Puyallup in January, 2012 were used as forecasting baseline. Model forecast period was assumed to be 2006 – 2030. Forecast volume calculations were post-processed using an average between ratio and difference methods. Model output at two nearby bridge crossings was also checked to verify whether the model indicates any shift in traffic balance across the river due to changes in demand characteristics or overcapacity conditions in the network. The results of this comparison showed no substantial percentage shift in traffic among these three crossings, so traffic forecasts were performed at the link level, and not adjusted to account for any potential shifts among these nearby river crossings.

Results

The 2008 report includes baseline traffic counts forecasts at the intersection of River Rd and Meridian Ave, immediately south of the Puyallup River bridge. The report provides PM peak hour 2005 counts and 2030 forecasts for the SR 167 Extension build condition at the northerly approach to, and departure from, this intersection:

Year	SB	NB
2005	1655	1380
2030	2090	1970
Annual growth rate	0.94%	1.43%

2030 forecast taken from the SR 167 Extension Traffic Analysis Report (Pertect, Inc. 2008)

To: Brendan Clarke

Date: May 25, 2012

Page 2

Our office researched PM peak hour counts taken at this same location in 2011, and developed a 2030 forecast at this same location. Forecasts were performed using both the PSRC PM period model, and the Pierce County models. The PSRC model results were used as they represented, on average, the more conservative figures:

Year	SB	NB
2011	1512	1187
2030	1777	1475
Annual growth rate	0.85%	1.15%

2030 forecast based on 2011 traffic counts and current PSRC PM period model

Note that although there was a lane restriction introduced on the bridge in February, 2011, its not expected that this has reduced traffic below what would be expected. This is because the restriction did not disallow heavy vehicles, but only moved them to the outside lane. This assumption is corroborated by the annual traffic report record immediately north of the River Rd/Meridian Ave intersection, which shows that daily traffic has remained constant, ranging between 32,000 and 33,000, from 2005 – 2011.

The current PSRC model was also used to verify the anticipated growth rate from 2030 to 2040, and this rate was applied to the forecast using the current PSRC model to determine the 2035 forecast for the River Rd/Meridian Ave location:

Year	SB	NB
2030	1777	1475
2035	1936	1562
Annual growth rate	1.73%	1.15%

2035 forecast based on 2011 traffic counts and current PSRC PM period model

A comparison of the 2030 forecast, from the 2008 report, and the most recent counts and current PSRC model follows:

Year	From	SB	NB
2030	2008 report	2090	1970
2035	Current counts/model	1936	1562
Difference		154	408
% Difference		+8%	+26%

Comparison of 2030 forecast from the 2008 Perrett report, and the 2035 forecast based on 2011 traffic counts and current PSRC PM period model

Summary and Conclusion

DRAFT FOR REVIEW

To: Brendan Clarke

Date: May 25, 2012

Page 3

The results show that the 2030 forecast from the 2008 report is higher than the 2035 forecast by 8% and 26% respectively. Reasons for these differences include the use of the 2011 traffic count as a forecasting baseline, which is lower than the 2005 count that was previously used, and the lower growth rate for both directions from 2006–2030 found in the most recent model. Although the PSRC model is projecting a higher growth rate between 2030 and 2040, this is not enough of an increase to overcome the difference between the previous and current, and lower, 2030 forecasts.

We recommend assuming that it would be reasonable to use the previous forecasts for the 2030 build condition at the north leg of the River Rd/Meridian intersection location as the 2035 traffic forecast, and that this approach represents a conservative approach to updating environmental documentation for this project.

Appendix B
Addendum to Individual Section 4(f) Evaluation

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Addendum to Section 4(f) Evaluation

SR 167 Puyallup to SR 509 Replacement of Puyallup River Bridge

Pierce County, WA



Prepared By:

WSDOT Olympic Region

XL-4105

July 2013

Prepared For:



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

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SR 167 Puyallup to SR 509 Replacement of Puyallup River Bridge Addendum to Section 4(f) Evaluation

Introduction

Section 4(f) of the Department of Transportation Act of 1966, codified in Federal Law at 49 U.S.C. §303, declares that it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges and historic sites.

Section 4(f) specifies that the U.S. Secretary of Transportation may approve a transportation program or project requiring the use of publically owned land of a public park, recreation area, or wildlife and waterfowl refuges of national, state or local significance, or land of an historic site of national, state or local significance only if:

- 1) There is no feasible and prudent alternative to using the land; and
- 2) The program or project includes all possible planning to minimize harm to the park, recreation area wildlife and waterfowl refuges and historic sites.

This addendum has been prepared in accordance with Federal Highway Administration (FHWA) guidelines for Section 4(f) evaluation for the Puyallup River Bridge Replacement. The proposed alternative would use the State Route (SR) 167 Puyallup River Bridge.

Project History

The Washington State Department of Transportation (WSDOT) and Federal Highway Administration (FHWA) proposed the SR 167 Puyallup to SR 509 Extension project, also known as the SR 167 Extension project. They are the lead agencies for compliance with NEPA and SEPA. The SR 167 Extension project is in Pierce County, Washington, within the Cities of Fife, Puyallup, Edgewood, Milton and Tacoma. The environmental analysis for this project was completed in two tiers (stages). The Tier I Environmental Impact Statement (EIS) analyzed the location and environmental aspects of different corridor options and selected the environmentally preferred corridor. The Tier II EIS selected the preferred alignment within the corridor and the interchange configuration.

The Tier II Final Environmental Impact Statement (FEIS) along with Section 4(f) evaluation was issued in November 2006. The Federal Highway Administration (FHWA) issued the Record of Decision (ROD) in October 2007. There was not sufficient funding available to construct the project at that time. WSDOT received funding for preliminary engineering and to purchase right of way. WSDOT has acquired 103 properties that comprise 70% of the corridor right of way. WSDOT received additional funding to continue with right of way acquisition and preliminary engineering as part of the 2012 supplemental budget; however construction for the project remains unfunded.

The SR 167 Puyallup River Bridge (167/20E) replacement, which is a phase of the larger SR 167 Extension undertaking, was recently funded. The northbound SR 167 Puyallup River Bridge, a steel truss bridge, is also called the Meridian Street Bridge. Due to deterioration of the steel truss constructed in 1925, the replacement of the bridge has been re-prioritized and fully funded. The Legislature has mandated the design build process for delivery of this project.

Purpose of the Report

This addendum to the Section 4(f) evaluation is being prepared for this phase of the SR 167 Puyallup to SR 509 Freeway Extension project as discussed above. The original report is provided as Appendix 1 of this addendum. The 4(f) evaluation of the Meridian Street Bridge was not conducted during the Tier II EIS because at the time of the original Section 4(f) evaluation, this bridge was determined not eligible for listing on the National Register of Historic Places (NRHP).

During a recent review of the status of the Meridian Street Bridge, WSDOT determined the bridge is now eligible for listing in the NRHP. The State Historic Preservation Officer (SHPO) has concurred with WSDOT's determination. The documentation is provided as Appendix 2. The Historic Inventory Report is also provided in Appendix 2.

This report will be an addendum to the original Section 4(f) evaluation and will document the impact of the project action. This documentation will be used to modify the NEPA process that was completed for the SR 167 Extension undertaking.

Proposed Action

The subject project proposes to construct a new two-lane bridge across the Puyallup River on SR 167 and to remove the Meridian Street Bridge. The project is located in the City of Puyallup in Sections 21 and 22, Township 20 North Range 4 East. WSDOT will remove, store, and maintain the Meridian Street Bridge until the local jurisdictions, King and Pierce Counties, can install it as a pedestrian bridge on the Foothills Trail or WSDOT will develop a marketing plan for the bridge and actively seek other preservation uses until 2019.

Existing Facility

The SR 167 Puyallup River Bridge is designated Bridge Number 167/20E by WSDOT and it is located at milepost 6.40 just outside the City of Puyallup. The Meridian Street Bridge, which is a steel truss bridge, was built in 1925. It was determined through inspection to be structurally deficient; the steel members are exhibiting severe corrosion and the concrete deck and piers are delaminating.

The Puyallup River Bridge is 371 feet long. The traveled lane width on the bridge is 21 feet from curb to curb with a five foot wooden sidewalk structure attached to the right side of the bridge. In January of 2011, WSDOT implemented a load restriction requiring vehicles larger than 10,000 pounds gross vehicle weight to use the right lane only. This was due to floor beam deterioration detected during a routine bridge inspection. In addition, the width of the bridge does not meet current standards for lane and shoulder widths, which is problematic due to the high volume of truck traffic that utilizes the bridge.

The structure is rated as *structurally deficient* based on the floor beam deterioration. Due to the magnitude of deterioration of the structure, annual maintenance costs will begin to rise unless major rehabilitation of the structure occurs.

Since original construction of the bridge, two major projects have taken place to lengthen the life span of the bridge. The first project occurred in 1951, and it replaced the approach spans with new wooden truss structures. In 1991 a second project took place that added new horizontal members to the main steel truss structure, replaced the end bearings, replaced the expansion joints and overlaid the slab. Since those projects have occurred, routine maintenance has occurred with repairs consisting mainly of replacing sheared rivets and spalled concrete.

In addition to the bridge's structural deficiency rating, the two-lane one direction bridge has sub-standard lane and shoulder widths. As a result, the bridge is consistently damaged due to traffic impacts to the barriers and sides of the structure. The floor beams also experience damage due to high vehicular loads. The damage is shown in Exhibits 1 and 2.

Exhibit 1 - Existing Puyallup River Bridge – Concrete Spalling



Exhibit 2 – Puyallup River Bridge –Typical rust in Beams



Section 4(f) Property

WSDOT, on behalf of FHWA, has determined that the Meridian Street Bridge is eligible for inclusion in the NRHP. The Department of Archaeology and Historic Preservation has concurred in this determination, as documented in Appendix 2. This bridge is currently the longest, simply supported, *steel riveted Warren through truss span* built prior to 1940 remaining on the Washington State highway system. The bridge is also significant for its unusual and unique truss configuration.

Alternatives Analysis

The purpose of this alternatives analysis is to evaluate the impacts associated with various alternative design strategies for the project and select the alternative that best meets the project purpose while minimizing adverse impacts to the historic steel truss bridge.

The *purpose and need* of the SR 167 Puyallup River Bridge Replacement project is to provide a structure that meets current standards for lane and shoulder widths and to address the structural deficiency of the existing bridge in order to preserve the SR 167 crossing over the Puyallup River as a part of the SR 167 corridor.

The SR 167 Puyallup River Bridge Replacement project must also address the *purpose and need* of the SR 167 Extension project undertaking. The undertaking will construct a new SR 167 / SR 161 interchange as a part of the SR 167 Freeway Extension. (See Exhibit 3) This new interchange will require five northbound lanes and two southbound lanes across the Puyallup River. Currently, there are two lanes for each direction on the adjacent existing steel truss and

concrete bridges that cross the river. The current bridge replacement project is the first phase of the larger undertaking, and it will address the deficiencies of the Meridian Street Bridge.

The design alternatives analyzed in this addendum are: Alternative 1 – No Build, Alternative 2 – Rehabilitation of the Existing Steel Truss, Alternative 3 – Preserve Steel Truss / Construct New Bridge & Alignment, Alternative 4 – Remove Steel Truss / Construct New Bridge and Alternative 5 – Construct New Bridge & Alignment / Remove Steel Truss. These alternatives are discussed below under *avoidance alternatives*, that completely avoid the Section 4(f) resource and *least harm discussion*, where those alternatives that have Section 4(f) resource impacts are discussed and the alternative that has the least overall impact is identified.

Avoidance Alternatives

Alternative 1 – No Build

This alternative would maintain the existing steel truss Puyallup River Bridge as it currently exists. No work would be performed except for routine maintenance. Due to the anticipated continued deterioration of the bridge, at some point routine maintenance will not be sufficient to keep the bridge open to vehicular traffic. Considering the structure is currently load restricted, it is in need of rehabilitation now.

This alternative was rejected during the 2006 FEIS as not prudent. The Preferred Alternative included replacing the steel truss bridge with a new five-lane concrete bridge. The No-Build Alternative would not meet the *purpose and need* of the project or the undertaking. Maintaining the existing steel truss would not provide a bridge that is structurally sufficient, it would not provide a bridge that meets current standards, and it would not accommodate the new freeway interchange to be constructed. In the near term, the No-Build alternative would prohibit truck traffic from traveling southbound across the Puyallup River on SR 167 which would create significant issues for this important freight route.

This alternative would result in long term maintenance issues, would not be consistent with the long term solution for maintaining the SR 167 corridor, and would not allow the Undertaking to be successfully completed. This alternative would not meet the *purpose and need* of either the current project or the undertaking.

Alternative 3 – Preserve Steel Truss / Construct New Bridge & Alignment

This alternative would construct a new bridge on an alternate alignment, and preserve the existing steel truss bridge in-place. This strategy would construct a new bridge adjacent to the existing structures on a new alignment to allow vehicular traffic to be re-routed onto the new bridge while maintaining the steel truss in its current location.

Preserving the steel truss in its current location would present challenges related to the structural integrity of the bridge for an extended period of time. The structural floor beam members have severe corrosion issues. Unless the floor beams are replaced, they would continue to deteriorate to the point of not being able to support the bridge deck. If these floor beams are replaced, the

new beams would impact the historical features of the bridge. Additionally, there is no funding to maintain the bridge at this time.

There also exists the issue of the need to displace the steel truss to construct the ultimate SR 167/161 interchange as part of the corridor project undertaking. The steel truss bridge lies within the footprint of the future five-lane bridge for the undertaking. Moving the future five-lane bridge outside the footprint of the existing bridges (to the east) would entail additional project impacts (right of way, business, water quality, etc.). If the steel truss bridge were to be maintained in its current location, it would need to be moved once funding for the undertaking was secured. The first order of work for the undertaking would be to remove the steel truss and to seek an alternate location for preservation of the structure. This would also require duplication of the environmental documentation and permitting process to allow the removal of the steel truss to occur, requiring additional time and money. Therefore, there is no advantage to leaving the bridge in place during this phase of work.

This alternative could meet the needs of replacing the Meridian Street Bridge, but it would not meet the *purpose and need* for completing the ultimate undertaking which is to build the SR 167 to SR 509 Corridor Extension project. Additionally, this alternative is not prudent due to the challenges of preserving the steel truss in its current location and because this alternative would not meet the *purpose and need* of the ultimate undertaking.

Least Harm Discussion

Alternative 2 – Rehabilitation of the Existing Steel Truss

This alternative would rehabilitate the existing steel truss to the point that it would be structurally sufficient to support freight traffic and would meet current seismic code. The rehabilitation effort would require that the steel members for the floor beams be replaced along with the removal and replacement of the concrete deck. The rehabilitation would also require significant repairs to be done to the foundations and bridge bearing pads to enable the structure to meet current seismic code.

Due to the significant work required, the rehabilitation effort would impact the historical integrity of the steel truss. The new steel members and revisions to the bridge's sub-structure would cause adverse impacts to the historic bridge.

The rehabilitation alternative would not meet the *purpose and need* of the project or the undertaking. Rehabilitation of the steel truss would not provide a bridge that meets current standards for lane and shoulder widths. The current bridge width is too narrow to safely carry two lanes of traffic, particularly considering the high volume of truck traffic. To widen the structure, virtually all of the horizontal steel members would need to be replaced and the layout of the members would also change. This drastic change to the steel truss would compromise its historic integrity.

This alternative would result in expenditures equivalent to the construction of a new bridge, and it would also create significant impacts to traffic and the environment for the duration of the

rehabilitation effort. This alternative would also require displacement of the steel truss to occur in the future as a part of the undertaking to allow the new interchange to be constructed. The rehabilitated steel truss would not be compatible with the new freeway interchange to be constructed as a part of the undertaking. This would result in additional adverse impacts to the historical bridge and the efforts to upgrade the structure and seismically retrofit the bridge foundations would ultimately be lost.

This alternative would not meet the *purpose and need* of either the current project or the undertaking.

Alternative 4 – Remove Steel Truss / Construct New Bridge

This alternative would construct a new bridge in place of the existing steel truss. This plan would require the removal of the steel truss as a first order of work. The new structure would be a two-lane bridge due to the limitations of current funding. The new bridge would meet current standards for lane and shoulder widths, and it would meet current seismic code.

Because current funding limits the project to constructing a two-lane bridge, the new bridge would need to accommodate future widening to five lanes to meet the *purpose and need* of the new SR 167 Extension project undertaking.

Removing the steel truss as a first order of work would constrain the amount of time WSDOT would have to locate a site to preserve the bridge and secure the necessary funding from a third party. Constructing only two lanes of a future five lane bridge would also introduce the risk of the ultimate design dictating revisions to the new structure to be compatible with future design and/or seismic criteria.

Additionally, Alternative 4 would entail greater environmental impacts than Alternative 5. For instance, to remove the steel truss bridge in Alternative 4 a temporary work bridge would need to be constructed over the Puyallup River to accommodate construction equipment, while the existing concrete bridge handles traffic during the construction phase. This would result in more work below the ordinary high water line (OHWL) than Alternative 5, where a temporary work bridge would not be required. Also, this alternative would require purchasing more right of way than Alternative 5.

This alternative, despite the challenges identified, would meet the *purpose and need* of both the project and the new SR 167 Extension project undertaking.

Alternative 5 – Construct New Bridge & Alignment / Remove Steel Truss

This alternative would construct a new bridge and roadway alignment for southbound traffic, and remove the steel truss as a last order of work. **Exhibit 4** details the alignment for the proposed bridge. This plan would successfully accommodate the future new interchange by providing a two-lane structure for southbound traffic, which matches the planned configuration of the new interchange. Northbound traffic would be shifted from the steel truss onto the existing adjacent concrete bridge. Once traffic is moved off of the steel truss, the truss would be removed. In the future, the SR 167 Extension project will remove the existing concrete bridge and construct a

new five lane structure for northbound traffic in the footprint of the existing steel truss and concrete bridges. (See Exhibit 3)

Alternative 5 would have less of an environmental impact than Alternative 4. It would require purchasing less right of way, no temporary work bridge would be required and less work below the OHWL would occur under Alternative 5.

Removing the Meridian Street Bridge as a last order of work would provide additional time to identify a site for long term preservation of the steel truss, and it would allow more of an opportunity to identify sources of funding for long term preservation of the structure.

This alternative would meet the *purpose and need* of both the project and the SR 167 Extension project undertaking.

Least Harm Determination

23 CFR 774.3(c)(1) requires that FHWA approve the alternative that causes the least overall harm in light of the statute's preservation purpose. The following factors must be balanced in making this determination:

- (i) The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);
- (ii) The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;
- (iii) The relative significance of each Section 4(f) property;
- (iv) The views of the official(s) with jurisdiction over each Section 4(f) property;
- (v) The degree to which each alternative meets the purpose and need for the project;
- (vi) After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
- (vii) Substantial differences in costs among the alternatives.

In the following discussion the two alternatives that meet the project's *purpose and need* are discussed. They are **4** and **5**.

The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);

Alternative 5 would provide additional time to identify a site for long term preservation of the Meridian Street Bridge and would allow more of an opportunity to identify sources of funding for long term preservation of the structure.

The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;

Alternative 5 would allow for the NRHP-eligible steel truss structure to be removed, stored and maintained; and provides the best chance for it to be preserved for an alternate use. For further detail, see the Measures to Minimize Harm section below.

The relative significance of each Section 4(f) property;

There is only one Section 4(f) property used by the project.

The views of the official(s) with jurisdiction over each Section 4(f) property;

SHPO has concurred with WSDOT's determination that the project, as proposed, will have an adverse effect on the NRHP eligible Meridian Street Bridge and is consulting on the revision of the project MOA to address this adverse effect.

The degree to which each alternative meets the purpose and need for the project;

Alternatives 4 and 5 both meet the *purpose and need* of the SR 167 Puyallup River Bridge Replacement project. However, Alternative 5 would better accommodate the future new interchange by providing a two-lane structure for southbound traffic, which matches the planned configuration of the new interchange. In the future, the SR 167 Extension project (the undertaking) will remove the existing concrete bridge and construct a new five-lane structure for northbound traffic in the footprint of the existing steel truss and concrete bridges. Alternative 4 would construct only two lanes of a future five-lane bridge because current funding limits the project to constructing a two-lane bridge. Constructing only two lanes of a future five-lane bridge would introduce the risk of the ultimate design dictating revisions to the new structure to be compatible with future design and/or seismic criteria, potentially adding additional cost to the project.

After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and

Alternative 4 would result in more work below the OHWL and would require purchasing more right of way than Alternative 5.

Substantial differences in costs among the alternatives.

Alternative 4 would have increased costs, as compared to Alternative 5, requiring the purchase of additional right of way and requiring a temporary work bridge not needed for Alternative 5.

Based on the factors above, FHWA has made a preliminary finding that Alternative 5 is the least harm alternative.

Summary

The goal of this project is to provide bridges and a roadway profile compatible with the SR 167 Extension project, which is currently in the preliminary engineering stage and for which right of way has been acquired. The No-Build alternative and refurbishing the steel truss alternative would not meet the *purpose and need* of the undertaking. To ensure forward compatibility with the SR 167 Extension project undertaking, constructing a new bridge in the present location of

the steel truss or constructing a new alignment while preserving the steel truss in place do not satisfy the *purpose and need* of the undertaking. The alternative of constructing a new bridge in place of the existing steel truss bridge could satisfy the *purpose and need* of the undertaking and would meet the needs of the current project. However, current funding would limit the new structure to a two-lane bridge. The new structure would need to accommodate future widening to five lanes to meet the *purpose and need* of the new SR 167 Extension project undertaking. Constructing only two lanes of a future five-lane bridge would introduce the risk of the ultimate design dictating revisions to the new structure to be compatible with future design and/or seismic criteria. Also, because the steel truss would have to be removed as a first order of work, WSDOT would be constrained in the amount of time available to locate a site to preserve the bridge and secure the necessary funding. By constructing a two-lane bridge on a new alignment and then removing the existing steel structure as a last order of work, WSDOT would have additional time to identify a site for long term preservation of the steel truss and to secure sources of funding for long term preservation of the structure. Also, by utilizing the existing concrete bridge to handle north-bound traffic the future SR 167 Extension project undertaking would be able to remove this structure and construct a new five-lane bridge in the footprint of the existing steel truss and concrete bridges. The existing concrete bridge will not meet future design and/or seismic criteria and will have to be removed during the future SR 167 Extension project undertaking.

The most prudent alternative would be to move forward with Alternative 5; constructing a two-lane bridge on a new alignment, and remove the existing steel structure. This alternative meets the *purpose and need* of the undertaking, resolves the imminent issue of the structural deficiency of the steel truss, and positions WSDOT for the best opportunity to preserve the Meridian Street Bridge at a new location.

FHWA and WSDOT have concluded that there is no feasible and prudent alternative to the use of the bridge and therefore proposes to replace the bridge and remove the existing steel truss.

Exhibit 3 - SR 167 / 161 Ultimate Interchange



Exhibit 4 - Proposed New Bridge Alignment



Measures to Minimize Harm

The project includes all possible planning to minimize harm and to provide necessary mitigation of Section 4(f) property as detailed below:

1. The project team investigated the surrounding area to determine if the Meridian Street Bridge could be moved upstream and utilized as a pedestrian facility. There are no pedestrian facilities or destinations on the north side of the river, so it is not likely the bridge would be utilized by pedestrians in the vicinity of its present location. In addition, there would be significant right of way costs associated with moving the bridge to a nearby location. An additional challenge would be to secure a local or private entity that would take on the long term maintenance and liability responsibility for a crossing at a nearby location.
2. By removing the structure as a part of the current project, the Meridian Street Bridge will be available to any organization interested in preserving the bridge without the need to obtain environmental permits or to mobilize expensive equipment that would be necessary to work over the river. The steel truss bridge will be inspected, dismantled, and re-furnished on land and will be available as soon as a location for long term preservation is found.
3. WSDOT will arrange to remove, store and maintain the NRHP-eligible steel truss structure to preserve it for an alternate use. WSDOT is working with King and Pierce Counties regarding the potential for use of the Meridian Street Bridge on the Foothills Trail between Enumclaw and Buckley across the White River. King and Pierce Counties are receptive to the potential preservation of the bridge on their trail system. The counties and WSDOT partnered to complete an engineering analysis to confirm that the structure can be successfully refurbished and relocated to the trail crossing. The engineering study has been completed, and the results are that refurbishing the steel truss and relocating it to the Foothills Trail would cost more than constructing a new pedestrian bridge. WSDOT and the counties are investigating to see if there are grant opportunities available for preserving transportation facilities that could be utilized to close the funding gap. Concurrent with these efforts, WSDOT is seeking alternative partners that may have a need and/or interest in the re-use of the historical steel truss bridge. Preservation and re-use of the steel truss as a pedestrian facility would be a positive result for the project.
4. Documentation of the Meridian Street Bridge will be completed in accordance with the Historic American Engineering Record (HAER) standards.
5. Agreement between SHPO and FHWA has been reached through the Section 106 process of the National Historic Preservation Act (NHPA), and a Memorandum of Agreement (MOA) was signed which details measures to minimize harm. The final MOA was signed in May 2013.

6. In the event a partner is not found to re-use and preserve the steel truss, WSDOT is prepared to store the bridge and market its availability for preservation. The advertisement of the availability of the bridge would occur as soon as it became apparent that the current plan for re-use on the Foothills trail is not feasible. The steel truss would remain in-place until the end of the current project in late 2015, being advertised the entire duration. If no alternative interested parties came forward during that time, WSDOT would remove the steel truss from its current location and store it until June of 2019 at which time funding for further storage and maintenance of the bridge would be evaluated.

Public and Agency Coordination

The public was involved in the SR 167 Extension project in the Tier I EIS and the Tier II EIS with public meetings, newsletters, e-mail notifications, project websites and open houses. The Citizen's Advisory Committee was formed to assist in recognizing local issues and concerns. The project team frequently made presentations to Chambers of Commerce, business associations and civic organizations. The public will now be invited to participate in the SR 167, Puyallup River Bridge Replacement Project by reviewing the Supplemental EIS and providing comments on the information. The input from the public will be carefully considered in agency decision making.

Conclusion

There is no feasible and prudent alternative to the use of the Puyallup River Steel Bridge. WSDOT has incorporated all measures to minimize harm to the Section 4(f) resource. The enclosed MOA demonstrates that the requirements of Section 106 of the NHPA (16 U.S.C. 470) have been satisfied.

Enclosure and Reference

1. Memorandum of Agreement between SHPO and FHWA
2. Appendix 1: SR 167, Tier 2 EIS Section 4(f) Evaluation
3. Appendix 2: DAHP concurrence letter & Historic Inventory Report

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**AMENDED MEMORANDUM OF AGREEMENT
BETWEEN THE FEDERAL HIGHWAY ADMINISTRATION, THE US ARMY CORPS OF ENGINEERS,
AND THE WASHINGTON
STATE HISTORIC PRESERVATION OFFICER PURSUANT TO 36 CFR Part 800.6(a)
REGARDING THE SR 167 PUYALLUP TO SR 509 PROJECT, PIERCE COUNTY, WASHINGTON**

WHEREAS, the US Department of Transportation, Federal Highway Administration (FHWA) has provided financial assistance to the Washington State Department of Transportation (WSDOT) for the SR 167 Puyallup to SR 509 Project (the undertaking) between SR 161 (Meridian Street North) in Puyallup and SR 509 in Tacoma, located in Pierce County, Washington, Federal Aid Project No. STPUL-0167(026); and

WHEREAS, FHWA has provided financial assistance to WSDOT for the first phase of the undertaking, Aid Project No. BR-0167(047); and

WHEREAS, the undertaking's design has been modified since the amended agreement was signed in 2009, thus warranting this amended agreement; and

WHEREAS, WSDOT conducted cultural resources surveys in the area of potential effects (APE), as documented by Luttrell (2004)¹, and Kiers and Holstine (2012)².

WHEREAS, FHWA has determined, and the State Historic Preservation Officer (SHPO) has concurred, that the undertaking as presently designed will have an adverse effect upon the following properties determined to be eligible for inclusion in the National Register of Historic Places (NRHP):

- Thomas and Lynn Novotney House at 7001 20th St. E (DAHP #27-4125, WSDOT #P202)
- George Dill House at 7717 Valley Ave. East (DAHP #27-4114, WSDOT # P239)
- Puyallup River Bridge #167/20E (Meridian Street) steel truss

WHEREAS, FHWA has notified the Advisory Council on Historical Preservation (ACHP) of the undertaking's effects pursuant to 36 CFR Part 800.6(a)(i), effective January 11, 2001, implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); and

WHEREAS, ACHP has declined to participate, but requests that pursuant to 36 CFR 800.6(b)(iv), a Memorandum of Agreement (Agreement) be developed in consultation with SHPO, and related documentation be filed with ACHP at the conclusion of the consultation process; and

WHEREAS, a Department of the Army permit, pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act, will be required from the United States Army Corps of Engineers, Seattle District (COE), to conduct activities related to the construction of the undertaking, and the COE has participated in the consultation; and

WHEREAS, WSDOT has participated in the consultation; and

WHEREAS, formal Section 106 consultation pursuant to 36 CFR 800.2(a)(4) was initiated with the Puyallup Tribe in 2000, and with the Muckleshoot Indian Tribe, Squaxin Island Tribe, and Yakama Nation in 2012.

NOW, THEREFORE, FHWA, SHPO, DAHP, COE, WSDOT, and the interested Tribes agree that the undertaking shall be implemented in accordance with the following stipulations, in order to take into account the effects of the undertaking on historic properties.

STIPULATIONS

FHWA will ensure that the following measures are carried out:

1. Historic Property Documentation:

- A. WSDOT will complete Level 2 Historic Engineering Record documentation and video documentation of the Puyallup River Bridge #167/20E (Meridian Street) steel truss and make the HAER report and video available via a web site dedicated to the historical documentation of the bridge.
- B. WSDOT will contract with an on-line historical encyclopedia devoted to Pacific Northwest history for an entry devoted to the history of the Puyallup River (Meridian Street) Bridge.
- C. WSDOT has consulted with the SHPO and completed documentation to DAHP Level 2 standards of historic properties at 7001 20th Street East and 7717 Valley Avenue East (DAHP #27-4125), in the undertaking's area of potential effects Holstine (2009)³.

2. Historic Property Preservation:

- A. NRHP-eligible buildings as described in item 1 above have been demolished after materials were salvaged for potential re-use. WSDOT provided DAHP with documentation of contacts made with salvage companies prior to demolition of the structures, per stipulations in the previous amended MOA.
- B. For the Puyallup River Bridge #167/20E (Meridian Street) steel truss, WSDOT will proceed per the following conditions:
 - a) WSDOT will, after completing the HAER and video documentation of the bridge, remove the steel truss from its current location and move it to the adjacent proposed alignment for the SR 167 freeway extension. WSDOT will then make any necessary repairs to the steel truss to assure structural integrity and secure the structure for storage until it can be relocated to the White River, or to an alternate location, until 2019. The moving, repair and storage of the steel truss will be done in accordance with the SR 167 Puyallup River / Meridian Street Bridge - Treatment Plan, Appendix A. WSDOT will be solely responsible for moving the steel truss and ensuring its structural and historical integrity are maintained during transport and storage.

- b) WSDOT, King and Pierce Counties, and the cities of Enumclaw and Buckley will continue to seek funding and grant opportunities to close the funding gap between the cost for reusing the steel truss and constructing a new pedestrian bridge. Depending on the availability of matching funds, these agencies will apply for grants to provide funding for the preservation and re-use of the steel truss on the Foothills Trail across the White River. WSDOT, King and Pierce Counties and the cities of Buckley and Enumclaw will work together to draft and submit the grant applications. WSDOT will contribute matching funds with the removal of the steel truss, and the remaining funds delegated for disposal of the steel truss. King and Pierce Counties and the City of Enumclaw and Buckley have identified the completion of the Foothills Trail between the two counties as a top priority. As such, these agencies will continue to actively seek funding opportunities to complete the trail system and provide matching funds for the grant applications. The agencies will coordinate with the consulting parties to ensure all applicable grant opportunities are explored. See Appendix B for a list of known grant opportunities the group of agencies will investigate.
- c) The results of the grant applications are anticipated to be available by the spring of 2015. If the grant applications are successful in providing the necessary funds to preserve the Puyallup River steel truss bridge as a part of the Foothills Trail, King and Pierce Counties will enter into an MOU that will identify ownership and long term maintenance responsibilities. If the grant applications are not successful WSDOT will ensure the grants are re-submitted the following funding cycle. King and Pierce County will sign the grant applications and participate in their re-submittal as funding and staffing allow. The group of agencies will also investigate other funding opportunities.
- d) If by the summer of 2017 King and Pierce County determine it is not economically feasible to preserve and re-use the steel truss on the Foothills Trail, WSDOT will, in consultation with SHPO and interested consulting parties, prepare a Bridge Marketing Plan for advertising the availability of the bridge for preservation at an alternate location utilizing the video documentation and web site completed per Stipulation 1 (above). WSDOT will actively seek an alternate preservation site for the bridge until June 2019.
- e) WSDOT will dispose of the steel truss if, after June 2019, no preservation sites or reasonable and sufficient funding sources have been successfully identified for the permanent preservation of the bridge.

3. Inadvertent Discovery:

At least 90 days prior to advertising the undertaking for construction, an Unanticipated Discovery Plan (UDP) will be developed by WSDOT, which will include any monitoring deemed necessary, a communications protocol detailing who will be contacted in the event of a discovery, and specific methods to be employed to protect any cultural resources, including human remains, discovered during construction. The UDP will be developed in coordination with SHPO and the consulting tribes.

4. Review of Historic Property Survey and Determinations:

Significant portions of the SR 167 Extension have yet to be finalized and construction may not occur for some time. Therefore, per standard operating methods WSDOT will, on behalf of FHWA, review the undertaking's APE as phases begin final design to: 1) determine if previously non-eligible properties obtained qualities that could make them eligible for the NRHP (e.g., becoming older than 50 years); 2) reevaluate the effects of the undertaking on prehistoric site 45PI488 per 36 CFR 800.5; and, 3) in consultation with the SHPO and tribes, complete cultural resources investigations in areas not previously surveyed. These activities will occur during the final design of a phase and be completed prior to construction of any distinct phase of the undertaking. Adverse effects on 45PI488 or any other historic property will require amendment of this agreement.

5. Amendment of the Agreement:

If any of the consulting parties to this Agreement determine that the terms of the Agreement cannot be met or believe a change is necessary, they will immediately request the signatory parties to consider an amendment or addendum which will be executed in the same manner as the original Agreement. A copy of the amended Agreement will be filed with the ACHP, pursuant to 36 CFR 800.6(c)(7).

6. Dispute Resolution:

- A. If a dispute arises regarding implementation of this Agreement, the signatory parties will consult with the objecting party to resolve the dispute. If FHWA determines that the dispute cannot be resolved, FHWA shall forward all documentation relevant to the dispute to ACHP and request comment, which will be provided pursuant to 36 CFR 800.6(b).
- B. If at any time during implementation of the measures stipulated in the Agreement, should an objection to any such measure or its manner of implementation be raised by a member of the public, FHWA shall take the objection into account and consult as needed with the objecting party, SHPO, or ACHP to resolve the objection.

7. Failure to Carry Out Terms:

Failure to carry out the terms of this Agreement requires that FHWA again request ACHP's comments in accordance with 36 CFR Part 800.7. If FHWA cannot carry out the terms of the Agreement:

- A. It will not take or sanction any action to make an irreversible commitment that would result in an adverse effect to eligible properties covered by the Agreement;
- B. Nor will FHWA foreclose ACHP's consideration of modifications or alternatives that could avoid or mitigate the adverse effect on the properties until the commenting process has been completed.

8. Duration & Termination:

This MOA will take effect immediately upon execution by the signatory parties. The terms of this MOA shall be satisfactorily fulfilled upon completion of the undertaking. Prior to completion of the undertaking, the signatories may consult to reconsider the terms of the agreement and propose its amendment. Unless terminated, this MOA will be in effect until FHWA, in consultation with the signatory and concurring parties, determines that all of its terms have been satisfactorily fulfilled.

In accordance with 36 CFR 800.6(c)(8), if any of the signatories determines that the terms of the MOA cannot or are not being carried out, they may consult to seek an amendment of the Agreement. If the Agreement is not amended, any signatory may terminate this MOA. If any signatory proposes to terminate this MOA, they shall promptly notify all other parties in writing of the proposed termination and shall include in their notification the reasons for proposing termination. If the MOA is terminated pursuant to this stipulation and FHWA determines that its undertaking will nonetheless proceed, FHWA shall request the comments of ACHP.

9. Monitoring and Reporting:

Within 90 days after carrying out the terms of the Agreement, as described in Stipulations 1 through 4, WSDOT shall report to all signatories on the actions taken.

10. Negligence:

To the extent consistent with Federal and State law, each party to this agreement shall be solely responsible for the negligence of its own officers, employees, and agents in the performance of this agreement.

This Memorandum of Agreement shall be filed with ACHP, which will provide evidence that FHWA has afforded ACHP an opportunity to comment on the SR 167 Puyallup to SR 509 Project and its effects on historic properties. Implementation of its terms is evidence that FHWA has taken into account its effects on historic properties and has satisfied the requirements of Section 106 of the National Historic Preservation Act (16 U.S.C. 470(f)).

¹ Luttrell, Charles

2004 *Cultural Resource Investigations for the Washington State Department of Transportation's SR 167: Puyallup to SR 509 Project, Pierce County, Washington*. Archaeological and Historical Services, Eastern Washington University, Cheney.

²Kiers, Roger and Craig Holstine

2012 *Cultural Resources Discipline Report, State Route 167 Puyallup River/Meridian Street Bridge Phase, SR 167 Extension – Puyallup to SR 509 Freeway Construction Project, Pierce County, Washington*. Washington State Department of Transportation, Olympia.

¹Holstine, Craig

2009 *DAHP Level 2 Documentation, George Dill House and Thomas and Lynn Novotnev House*.
Washington State Department of Transportation, Olympia.

SIGNATORY PARTIES

Federal Highway Administration

By: Daniel M. Mathis
Daniel Mathis
Division Administrator

Date: 05/02/2013

U.S. Army Corps of Engineers, Seattle District

By: Bruce A. Estok
Bruce A. Estok, COL, USACE, Commanding

Date: 23 Apr 2013

Washington State Department of Archaeology and Historic Preservation

By: Allyson Brooks
Allyson Brooks, Ph.D.
State Historic Preservation Officer

Date: 5/6/13

INVITED SIGNATORIES

Washington State Department of Transportation

By: Kevin Dayton
Kevin Dayton
Regional Administrator

Date: MAY 1, 2013

King County, Parks and Recreation Division

By: Kevin Brown
Kevin Brown
Division Director

Date: 2/20/13

Pierce County, Parks and Recreation Services

By: Kathy Kravt Smith
Kathy Kravt Smith
Director

Date: 2/14/13

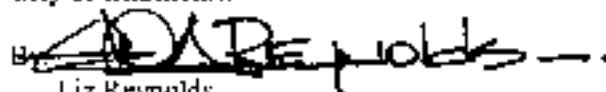
CONCURRING PARTIES

Puyallup Tribe of Indians

By: _____
Honorable Herman Dillon, Sr.
Tribal Chair

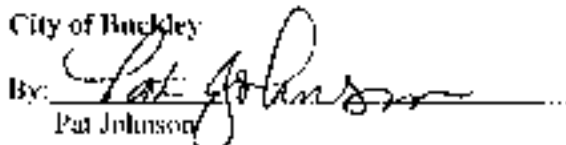
Date: _____

City of Enumclaw

By: 
Liz Reynolds
Mayor

Date: 2-27-2013

City of Buckley

By: 
Pat Johnson
Mayor

Date: 3/13/13

Appendix A

SR 167 Puyallup River / Meridian Street Bridge

Treatment Plan

The SR 167 Puyallup River Bridge #167/20E (Meridian Street Bridge) is eligible for inclusion in the National Register of Historic Places (NRHP). WSDOT has identified the Foothills Trail crossing the White River as a potential location for the preservation of the Meridian Street Bridge. King County, Pierce County, the City of Enumclaw and the City of Buckley are committed to seeking funds to close the funding gap between the cost of reusing the steel truss and constructing a new pedestrian bridge. As a first stage of this commitment, WSDOT will remove the steel truss from its current location across the Puyallup River and store it immediately adjacent to its current location. This location will be to the northwest where the SR 167 freeway alignment will be constructed. The steel truss will be stored in this location until sufficient funding is secured for its preservation, or until 2019, in accordance with the following protocol:

Storage

- The bridge will be moved using appropriate measures to ensure the historical and structural integrity of the steel truss in accordance with industry standards for transportation structures. WSDOT Bridge Engineers will review and approve the detailed plans and structural calculations for the means and methods of picking and moving the steel truss. The consulting parties will be provided an opportunity to review the plans and calculations.
- Once moved to its temporary location, the steel truss will be supported at each panel point of the truss, with temporary footings to keep the structure at least 3' above ground. The temporary supports, and the details for removal and moving the truss, will be designed by and bear the seal of a licensed professional structural engineer.
- WSDOT will then address any significant corrosion issues by removing rust and re-painting locations of the steel truss as necessary to assure structural integrity during storage.
- The steel truss will be secured with fencing and periodically inspected at least once every 6 months to ensure damage and vandalism are prevented until it is relocated or until the year 2019. If damage or vandalism is observed, WSDOT will evaluate the damage or vandalism and take actions to address any significant damage to assure the structural integrity of the bridge during storage.

Preservation

- WSDOT will seek to preserve the eligibility for the NRHP, or local registers, of the steel truss at its new location across the White River, or an alternate location if one is identified later, by following the Secretary of the Interior's Standards for Rehabilitation during removal, maintenance, and re-erection of the truss.
- Once funding is secure, King and Pierce County (or other alternate future owner) will disassemble the steel truss and strip it of the lead paint and corrosion. The steel members will then be re-painted.
- During dis-assembly, the steel truss members will be marked appropriately to ensure they are re-assembled correctly.
- To the extent possible within funding limits, the steel truss will be re-erected across the White River (or other alternate location) preserving the character-defining features of the bridge in its original state (i.e., the steel truss as described in the Historic Property Report, not including the approach spans, sidewalk, rivets, or floor system).
- The plan for re-erecting the steel truss will be designed and stamped by a professional structural engineer.
- The consulting parties will be provided an opportunity to review any structural modifications and the plan for re-erection.

Appendix B

SR 167 Puyallup River / Meridian Street Bridge

Grant Opportunities

The following are a list of known grant opportunities WSDOT, King and Pierce County will investigate to provide funding for the preservation and re-use of the Meridian Street steel truss for a crossing of the White River as a part of the Foothills Trail. The team will determine which grants are applicable to the project, and will coordinate with the consulting parties to ensure appropriate grant opportunities are pursued. If additional grants become known, consulting parties shall notify Brenden Clarke at clarkeb@wsdot.wa.gov

- Transportation Enhancement Funds (the recent federal transportation bill, MAP 21, potentially reduces the amount of enhancement funds that will be available, but there will at least be some level of funding for the Puget Sound RTPO):
<http://www.wsdot.wa.gov/LocalPrograms/ProgramMgmt/TransEnhancement.htm>
- Recreation and Conservation Funds: <http://www.rco.wa.gov/grants/index.shtml>
- Heritage Capital Projects Grants, through the WA State Historical Society. The deadline for the 2013-2015 funding cycle has passed, but applications for the 2015-17 cycle will be due in May 2014: <http://www.washingtonhistory.org/heritageservices/grants.aspx>

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Chapter 5

Section 4(f) Evaluation

Note: The Draft Section 4(f) Evaluation was distributed for review. The public comment period closed on October 4, 2005. The Final Section 4(f) Evaluation, prepared to address comments on the draft, will be Chapter 5 of the FEIS.

Tier II Final EIS

SR 167

Puyallup to SR 509

**Federal Highway Administration
Washington Division**

DRAFT SECTION 4(F) EVALUATION

**SR 167 PUYALLUP TO SR 509
TIER II EIS
PIERCE COUNTY, WASHINGTON**

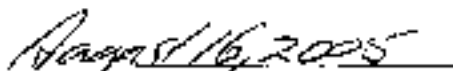
Submitted Pursuant to 42 U.S.C. 4332(2)(c) and 49 U.S.C. 303

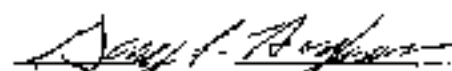
by

**U.S. Department of Transportation
Federal Highway Administration**

Washington State Department of Transportation

August 2005


Date of Approval


For FHWA

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Chapter 5 **Draft Section 4(f) Evaluation**

5.1 Introduction

The Washington State Department of Transportation (WSDOT) is planning the completion of the SR 167 freeway between the SR 509 freeway in the City of Tacoma and SR 161 (North Meridian) in north Puyallup. The project would be constructed within Pierce County, Washington, in the cities of Fife, Puyallup, Edgewood, Milton, and Tacoma. The new freeway would replace the existing SR 167 arterial route between the I-5 Bay Street interchange and Puyallup via River Road and North Meridian. The freeway is designed as four lanes, plus inside HOV lanes to be constructed between I-5 and SR 161 at a future date. Figure 5-1 is a project vicinity map; Figures 5-2 and 5-3 identify the 4(f) resources evaluated in this report that are within the proposed corridor.

5.1.1 Section 4(f) Resources

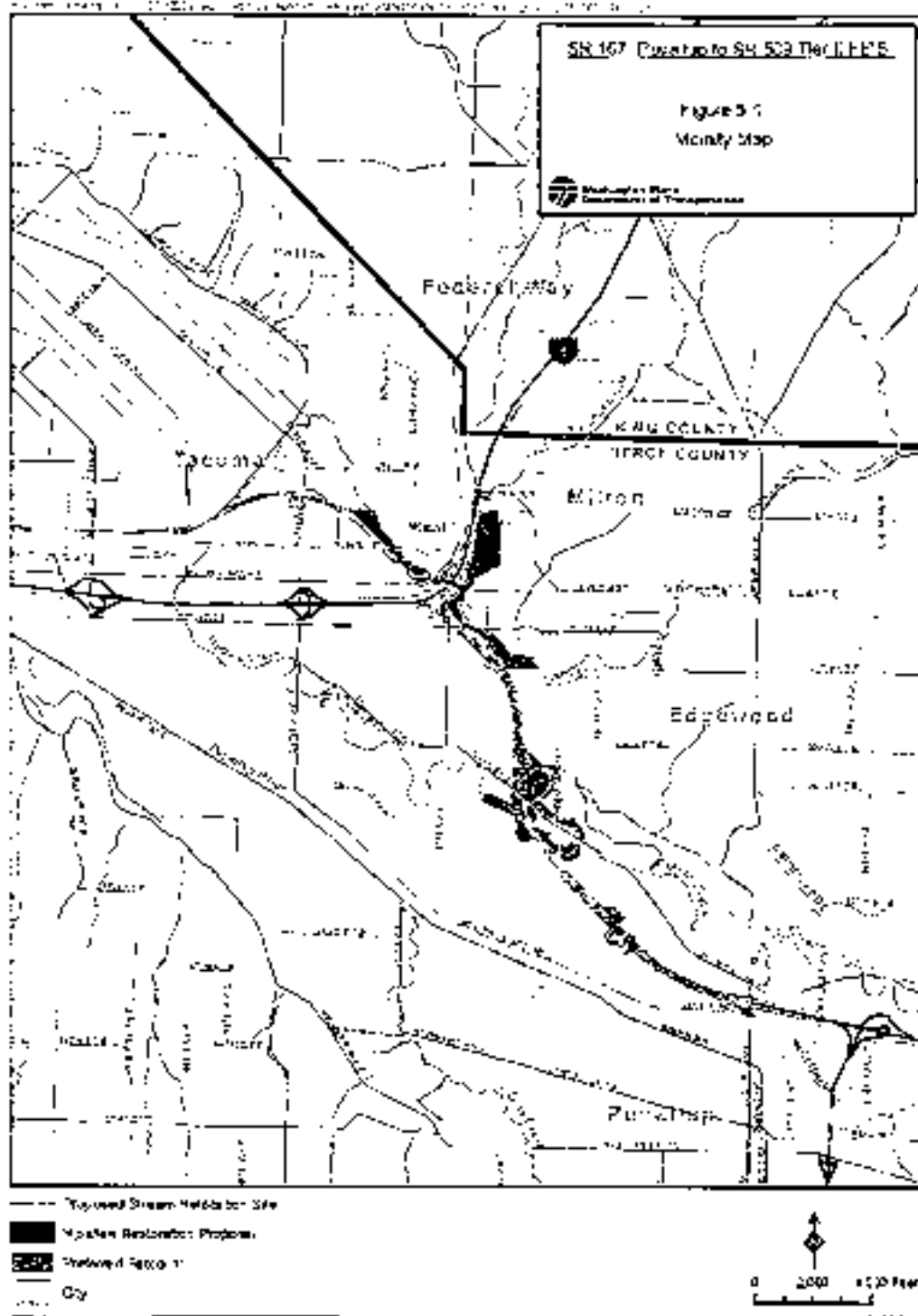
Section 4(f) of the Department of Transportation Act of 1966, codified in Federal law at 49 U.S.C. §303, declares that “[i]t is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

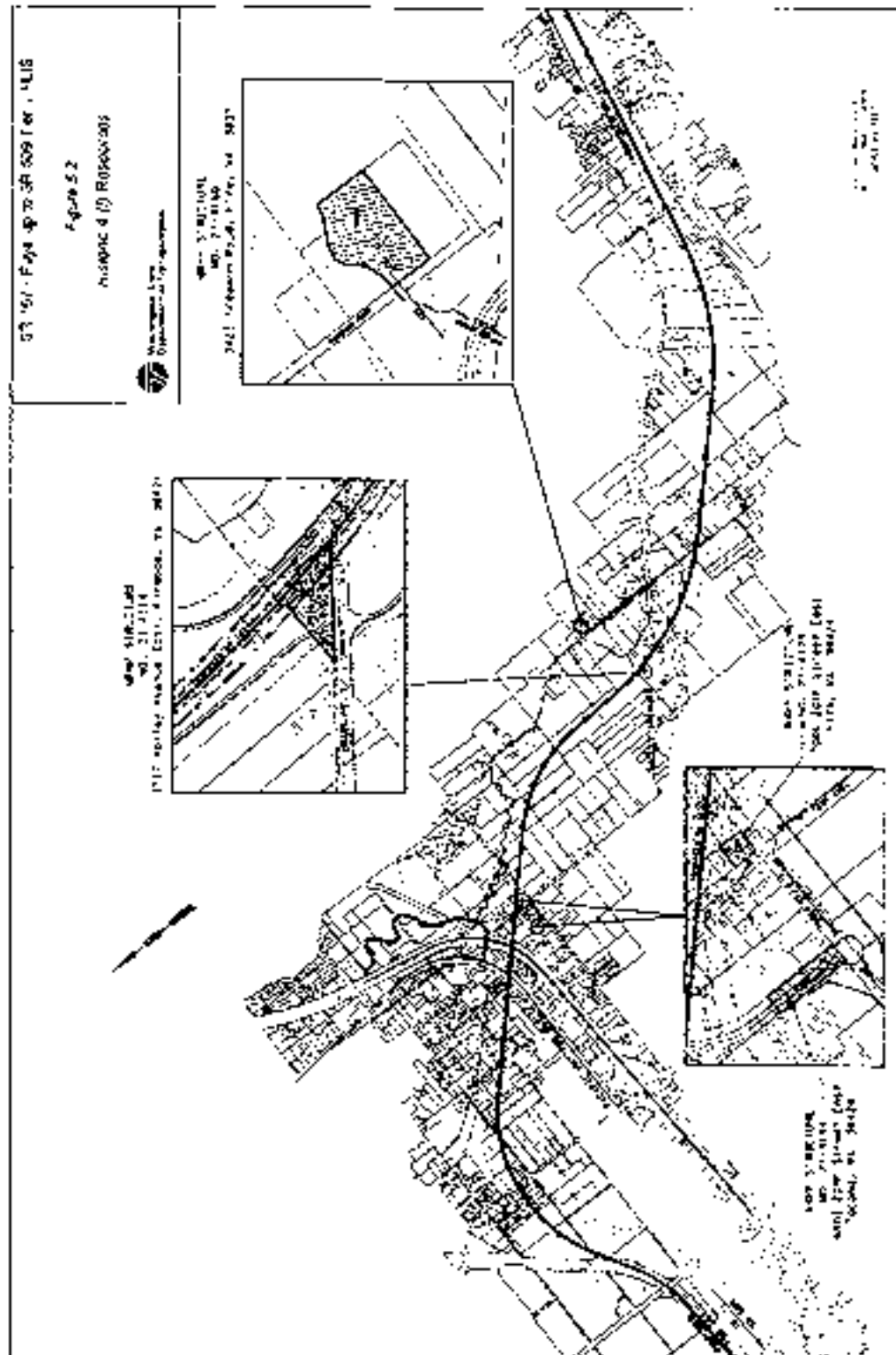
Section 4(f) specifies that “[t]he Secretary [of Transportation] may approve a transportation program or project ... requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if -

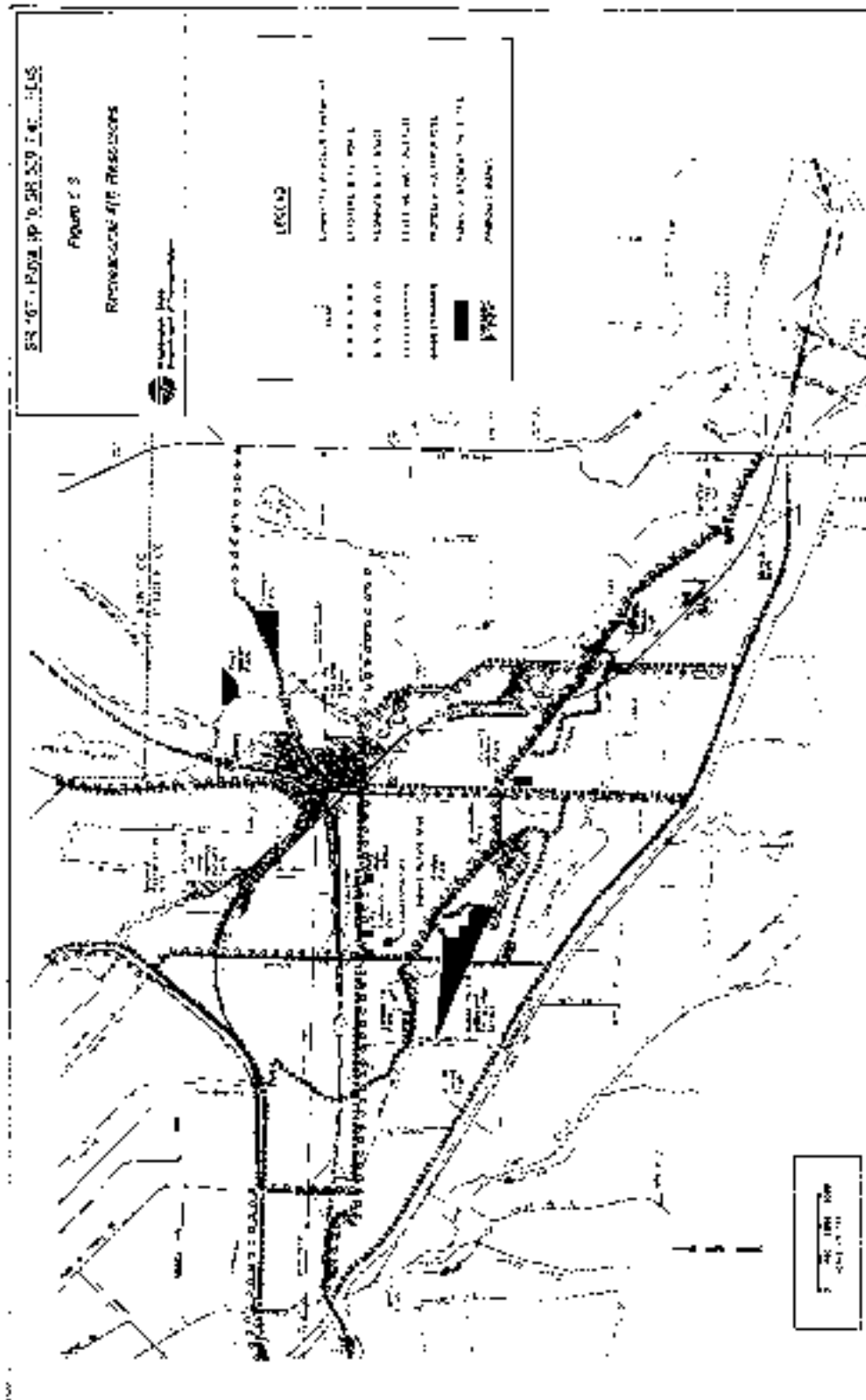
1. There is no feasible and prudent alternative to using that land.
2. The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.”

“Use” of a Section 4(f) property is usually considered to occur when land from a 4(f) resource is permanently incorporated into a transportation facility or when there is a temporary occupancy of land from a 4(f) resource which results in an adverse effect upon the resource contrary to the Section 4(f) statutory intent to preserve these properties. However, use of a Section 4(f) resource is not limited to property or easement acquisition under the statute.

“Constructive use” under Section 4(f) is defined as project proximity impacts (e.g. noise, access, vibration, aesthetic, ecological intrusion) which are so severe that they “substantially impair” or diminish the activities, features, or attributes that qualify a resource for protection under section 4(f). FHWA has determined that the threshold for constructive use is proximity impacts which substantially impair the function, integrity, use, access, value or setting of a park, recreation area, waterfowl or wildlife refuge, or historic site.







Supporting information must demonstrate that there are unique problems or unusual factors involved in the use of alternatives that avoid use of 4(f) resources or that the cost, social, economic, and environmental impacts, or community disruption resulting from such alternatives reach extraordinary magnitudes or result in unique problems.

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Departments of Agriculture and Housing and Urban Development in developing transportation projects and programs which use lands protected by Section 4(f).

5.1.2 Section 6(f) Resources

Recreation resources that are acquired or improved with Land and Water Conservation Fund monies are also protected under Section 6(f) of the Land and Water Conservation Fund Act as stated in the FHWA Technical Advisory T6640.8A:

Section 6(f) directs the Department of the Interior (National Park Service) to assure that replacement lands of equal value, location, and usefulness are provided as conditions to approval of land conversions. Therefore, where a Section 6(f) land conversion is proposed for a highway project, replacement land will be necessary. Regardless of the mitigation proposed, the draft and final Section 4(f) evaluations should discuss the results of coordination with the public official having jurisdiction over the Section 4(f) land and document the National Park Service's position on the Section 6(f) land transfer, respectively.

There are no Section 6(f) resources impacted by this project.

5.2 Description of the Proposed Action

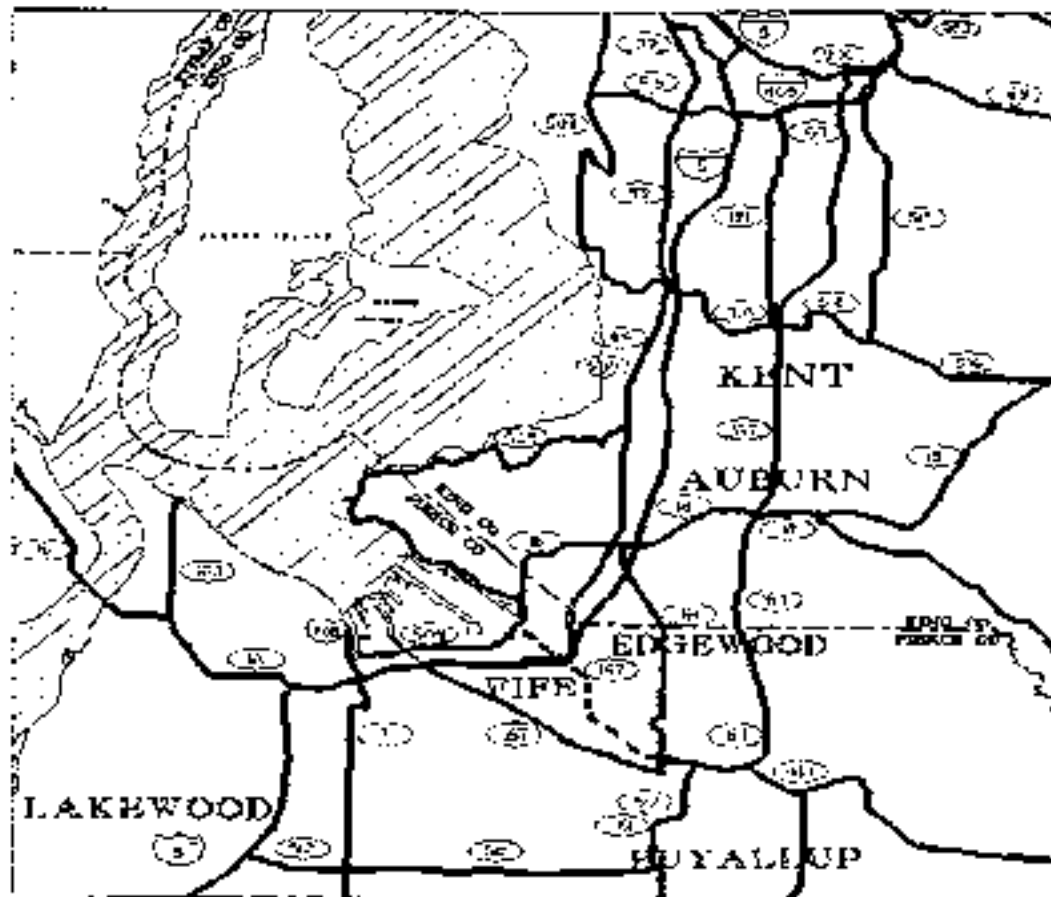
5.2.1 Project Background

In the 1950's, a regional highway plan was developed which included SR 167 from Renton to I-5. After issuance of a Design Report and Access Report, work on the project in the Puyallup Valley was halted in the late 1970's because of uncertainty regarding ownership of the Puyallup Tribal lands in the area. In the late 1980's the SR 167 freeway was completed from I-405 in Renton to SR 512 in Puyallup. The tribal ownership issue was resolved in 1989, allowing the SR 167 extension planning to move forward. In 1990 the Washington State Legislature provided funds for the completion of the SR 167 project.

At the beginning of the EIS preparation in 1990, FHWA and WSDOT decided to tier the EIS process into two steps as permitted in the federal guidelines under the National Environmental Policy Act (NEPA). The Tier I EIS would evaluate different corridor options and select a preferred corridor and interchange locations. The Tier II EIS would result in selection of a preferred design and evaluation of interchange options within the selected corridor. In both cases, the selection process involved evaluating the environmental consequences of

different alternatives and identifying ways to avoid, minimize, or mitigate the environmental impacts.

Regional Freeway Network



NEPA regulations at 23 CFR §771.135(o) address the analysis required by Section 4(f) in a tiered FIS:

(1) When the first-tier, broad-scale FIS is prepared, the detailed information necessary to complete the section 4(f) evaluation may not be available at that stage in the development of the action. In such cases, an evaluation should be made on the potential impacts that a proposed action will have on section 4(f) land and whether these impacts could have a bearing on the decision to be made. A preliminary determination may be made at this time as to whether there are feasible and prudent locations or alternatives for the action to avoid the use of section 4(f) land. This preliminary determination shall consider all possible planning to minimize harm to the extent that the level of detail available at the first-tier FIS stage allows. It is recognized that such planning at this stage will normally be limited to ensuring that opportunities to minimize harm at subsequent stages in the development process have not been precluded by decisions made at the first-tier stage. This preliminary determination is then incorporated into the first-tier FIS.

(2) A section 4(f) approval made when additional design details are available will include a determination that: (i) The preliminary section 4(f) determination made pursuant to paragraph (o)(1) of this section is still valid; and (ii) The criteria of paragraph (a)¹ of this section have been met.

5.2.2 Tier I FEIS and ROD

Development of the Tier I Draft EIS began in 1990 with a public review process. The Tier I EIS evaluated three corridors and a no build alternative after initially considering seven preliminary alternative corridor locations. The Tier I Draft EIS was published in June of 1993 and a public hearing was held on July 15, 1993. Subsequently, FHWA required WSDOT to prepare a Major Investment Study (MIS), completed in October 1995, which evaluated the effectiveness of four alternatives. The three corridor alternatives presented in the Tier I EIS avoided then identified 4(f) resources. Alternative 2 had the best mix of features for avoiding, minimizing, and mitigating environmental impacts while still meeting the purpose and need for the project. Therefore, Alternative 2 was selected as the preferred corridor in the Tier I Final EIS and was the basis for the Build Alternative studied in the Tier II Draft EIS. The Tier I Final EIS was published in April 1999 and the Record of Decision was issued by FHWA in June 1999.

5.2.3 Tier II DEIS

The Tier II Environmental Impact Statement (EIS) continues the environmental review process begun in Tier I under both NEPA and the State Environmental Policy Act (SEPA). The Tier II Draft EIS was circulated for public review in February 2003. It included the complete description of the proposed facility and the resulting impacts to cultural resources and the environment, conceptual mitigation plans resulting from those impacts, and identified all necessary environmental permits. Copies of the Tier II Draft EIS are available for review at local libraries or by request from the Washington State Department of Transportation.

One prehistoric site and four Craftsman style homes eligible for the National Register of Historic Places (NRHP) were identified in the Tier II Draft EIS. Subsequent to public review, it was determined that additional analysis of the corridor was necessary. Elements of the project, such as a proposed wetland mitigation site (comprising of approximately 200 acres) and areas for the proposed Park and Ride facilities were researched and one additional historic property, a dairy farm, was identified. On June 15, 2004, the Office of

¹ 23 C.F.R. 771.135(a)(1) The Administration may not approve the use of land from a significant publicly owned public park, recreation area, or wildlife and waterfowl refuge, or any significant historic site unless a determination is made that:

(i) There is no feasible and prudent alternative to the use of land from the property; and
(ii) The action includes all possible planning to minimize harm to the property resulting from such use.
(2) Supporting information must demonstrate that there are unique problems or unusual factors involved in the use of alternatives that avoid these properties or that the cost, social, economic, and environmental impacts, or community disruption resulting from such alternatives reach extraordinary magnitudes.

*update
for final*

Archeological and Historic Preservation (OAHP) concurred that 64 surveyed resources are not eligible for the NRHP, and 5 historical resources and 1 archeological site were determined to be eligible for the NRHP. Those historical 4(f) resources are described in this draft Section 4(f) evaluation.

This Draft Section 4(f) Evaluation was circulated as a separate, stand alone, document.

5.2.4 Purpose and Need

The purpose of the proposed project is to

- improve regional mobility of the transportation system;
- serve multimodal local and port freight movement and passenger movement between the Port of Tacoma, the new SR 509 freeway, and the I-5 corridor and the Puyallup termini of SR 167, SR 410, and SR 512;
- reduce congestion and improve safety;
- provide improved system continuity between I-5 and the SR 167 corridor;
- maintain or improve air quality in the corridor to ensure compliance with the current State Implementation Plan (SIP) and all requirements of the Clean Air Act (CAA).

The existing non-freeway segment of SR 167 from I-5 to the Puyallup area is on surface streets and includes a circuitous route through Puyallup, via River Road and North Meridian. The high levels of congestion at intersections and the frequency of intersecting driveways contribute to relatively high accident ratios compared to statewide averages. Traffic projections for the year 2030 indicate the capacity problems at intersections will increase if action to complete the freeway is not taken.

Trucks transporting freight currently travel through the City of Fife via Valley Avenue East, 70th Avenue East, and 54th Avenue East, or climb existing steep grades on SR 18 near I-5. Several intersections along these routes operate at over-capacity conditions during peak traffic, resulting in traffic delays and congestion. The Port of Tacoma projected truck traffic to and from the Port to double from 300,000 to 600,000 trucks per year by the year 2014 (Tier I EIS, 1999). Anticipated problems include more congestion-related delays in freight transport and incompatibility of heavy truck use on residential surface streets creating unsafe conditions.

5.3 Alternatives and Options

Several corridor alternatives and a no action alternative were evaluated in the Tier I EIS. Corridor 2, which was selected as the preferred alternative, provided a corridor within which a new limited access freeway connecting SR 509 to SR

167 near Puyallup and interchanges at I-5 and Valley Avenue could be configured.

The Tier II EIS proposes two alternatives, a no build and a build alternative.

5.3.1 No Build Alternative

Under the “no build” alternative, the SR 167 freeway will terminate at North Meridian (SR 161), and the non-freeway SR 167 will continue to I-5 via North Meridian and River Road where it will terminate at the Portland Avenue/Bay Street interchange in Tacoma. The corridor would remain in the present state except for minor improvements and maintenance. Hylebos Creek and Surprise Lake Drain will not be relocated. Riparian restoration will not occur on Hylebos Creek, Surprise Lake Drain, or Wapato Creek. Pierce County and the Cities of Fife, Tacoma, Puyallup, Milton, and Edgewood will continue with their programmed and planned improvements to the local transportation system. SR 167 Tier II DEIS Section 3.14, Transportation, identifies some of the roadway projects that are planned. The types of projects include widening roads, signalizing intersections, adding bicycle and pedestrian facilities, developing park and ride facilities, and improving capacity.

WSDOT will also continue making improvements to its facilities in the study area under the No Build Alternative. These facilities include SR 509, SR 705, SR 99, SR 161, SR 512, and the existing SR 167. The types of improvements include adding HOV lanes, adding collector/distributor lanes, improving on and off ramps, adding transportation demand management systems, and upgrading drainage systems.

5.3.2 Build Alternative

The build alternative consists of a four-lane freeway (four general purpose lanes) with two HOV lanes between I-5 and SR 161. The build alternative includes freeway-to-freeway connections with SR 509, SR 167, and I-5. Also, it includes new local access interchanges at 54th Avenue East and Valley Avenue and completion of the SR 161 interchange. As part of the SR 161 interchange, the existing eastern bridge over the Puyallup River will be replaced and the existing western bridge will be widened. The Build Alternative also results in the relocation of a part of Hylebos Creek and Surprise Lake Drain. The relocated channel designs will reduce flooding and improve fish and wildlife habitat. A riparian restoration area is proposed for existing Hylebos Creek between SR 99 and 8th Avenue, for the relocated Hylebos Creek and Surprise Lake Drain east of I-5, and at Wapato Creek near Freeman Road and Valley Avenue.

A conceptual stormwater treatment plan has been developed for the project.

Mainline Description

The proposed SR 167 begins as a four-lane limited access highway where it connects to the existing SR 509 at the Port of Tacoma Road/SR 509 Interchange. The location of the connection and design features are dictated by the location of SR 509 and the SR 167 alignment as approved in the Tier I EIS. The two-lane

southbound SR 167 will directly connect to the southbound lane of SR 509. The two-lane northbound SR 509 will directly connect to the two-lane northbound SR 167. There will be single-lane ramps from southbound SR 167 to SR 509 North Frontage Road and from northbound SR 167 to SR 509 South Frontage Road.

If necessary, as part of the SR 509 connection, one new bridge over Alexander Avenue will be built. This bridge will span Wapato Creek and the South Frontage Road. The existing railroad crossing of SR 509 will be relocated. A new railroad bridge over Wapato Creek will be constructed south of the South Frontage Road. A new structure (potentially a bridge or three-sided culvert) will replace the existing 110-foot-long by 8-foot-diameter open bottom arched culvert over Wapato Creek on North Frontage Road.

The four-lane mainline alignment continues easterly on embankment until it crosses 54th Avenue East in the vicinity of 8th Street East. An interchange providing access to and from the east is proposed at 54th Avenue East. Two interchange options were developed and are discussed below. The mainline continues on an embankment from 54th Avenue East until just past 8th Street East where the mainline separates and northbound lanes ascend on an elevated structure while southbound lanes remain on embankment until after crossing 12th Street East. Local access is maintained as mainline SR 167 crosses 12th Street East on structure.

Both northbound and southbound lanes cross SR 99 on separate elevated structures continuing on to the freeway-to-freeway connection with I-5. The archeological site is in the vicinity of these structures.

Bridges over 54th Avenue East and 12th Street East will be constructed. An existing culvert at the 12th Street East crossing of Hylebos Creek will be replaced with a structure. Riparian restoration along Hylebos Creek will also occur. It will include the removal of residential and commercial buildings near 8th Street East and 62nd Avenue East, the removal of 8th Street East and 62nd Avenue East, east of the new alignment, and the relocation of a drainage ditch. The proposed Lower Hylebos Nature Park, as shown on Figure 5-3, is in the vicinity of the proposed riparian restoration area and the existing Milgard Restoration Site.

Due to complexity of I-5 interchange and limited solutions for these freeway-to-freeway connections, only one design option could be developed to reasonably meet the needs at this location. The interchange will consist of three elevated levels of roadway structures extending up to 80 feet above ground. The SR 167 mainline would be elevated on structure over 12th Street East, Pacific Highway (SR 99), Interstate 5, proposed relocated 20th Street East and 70th Avenue East. Two historic residences are in the vicinity of the proposed changes to existing 20th Street East and 70th Avenue East.

Hylebos Creek will be relocated as part of mitigation for the fill of Hylebos Creek due to improvements to I-5. The creek will be relocated to the field east of I-5 from its current location adjacent to I-5. Relocation will begin where the creek enters the current I-5 Right Of Way upstream from the proposed interchange and will extend downstream to where it passes underneath SR 99, approximately 4,010 linear feet of channel.

A riparian restoration plan has been developed as part of the project's conceptual stormwater treatment plan that will provide a riparian buffer area around the existing and relocated Hylebos Creek. It will also provide a separated non-motorized path from 54th Avenue East to SR 99. The required 200- to 400-foot stream channel and riparian buffer area intersects with and is adjacent to Interurban Trail and the planned Pacific National Soccer Park.

Surprise Lake Drain will also be relocated as part of the I-5 interchange improvements. South of I-5, Surprise Lake Drain will be relocated and restored to a more natural alignment. The existing Surprise Lake Drain channel, which currently bisects the planned Pacific National Soccer Park, will be moved to agricultural fields east of the new SR 167 mainline (Figure 5-3).

Riparian restoration, part of the project's conceptual stormwater treatment plan, is proposed along Wapato Creek at Valley Avenue Interchange. Restoration activities include riparian plantings, fill removal, impervious surface removal from the floodplain, and the potential removal of six undersized crossing structures. A trail, the planned Fife Landing South Trail, is currently proposed to follow Wapato Creek in the vicinity of the project's planned restoration activities.

The mainline continues to the southeast parallel with Valley Avenue with two general purpose lanes in each direction and one HOV lane in each direction. Washington State Patrol truck weigh station facilities are proposed for each direction of travel east of the Valley Avenue interchange. The mainline would pass to the south of the Puyallup Recreation Center. WSDOT is proposing another cross connection over SR 167 with the preferred Urban interchange option for SR 161. Three design options have been developed for consideration at this interchange. The mainline continues towards the terminus at the existing SR 161/SR 167 interchange.

There are two existing bridges over the Puyallup River that carry SR 161 traffic. The southbound traffic travels over a concrete structure (eastern bridge) constructed in 1971. The northbound traffic travels over a steel structure (western bridge) constructed in 1951. The concrete bridge has a pier within the ordinary high watermark of the river while the steel bridge spans the river. The steel bridge is approximately 3 feet lower than the concrete bridge. Neither bridge meets current design standards.

As part of the SR 161/SR 167 interchange improvements, the existing steel bridge will be removed and replaced with a bridge that may span the Puyallup River. The project currently estimates a maximum of four piers for the new bridge will be located within the ordinary high water mark of the river. The concrete bridge will be widened approximately seven feet to provide shoulders and a bike lane. The Riverfront Trail currently passes under the steel and concrete Puyallup River bridges.

Interchange Descriptions

There are three interchanges with multiple design options under consideration. They are at 54th Avenue East, Valley Avenue, and SR 161 (North Meridian).

54th Avenue East Partial Interchange

There are two options for the partial interchange at this location. In both options, the ramps are single lane and provide only southbound off and northbound on access to SR 167. Connections will be provided for bicycle route continuity. There are no 4(f) resources in the vicinity of this proposed interchange.

Valley Avenue Interchange

Three design options were developed for this interchange location. For each, the SR 167 mainline is elevated over Valley Avenue, Union Pacific Railroad, Wapato Creek, and Freeman Road. Under all three options, WSDOT will widen Valley Avenue from two lanes to five lanes from the northbound off ramp to the intersection of Freeman Road East. There are two historic residences in the vicinity of this proposed interchange.

SR 161 / SR 167 Interchange

An existing connection here provides the southern terminus for the freeway segment of SR 167 between Puyallup and Renton. With the proposed SR 167, this connection will become a full interchange. Three design options have been developed. In each design option, the SR 167 mainline will be elevated over SR 161 (North Meridian). In all three options, the existing steel bridge over the Puyallup River (northbound SR 161) will be replaced. The existing concrete bridge (southbound SR 161) will be widened. There are no 4(f) resources in the vicinity of this proposed interchange.

5.4 Description of Section 4(f) Resources

Section 4(f) resources include historic sites and publicly owned parks, recreation areas, and wildlife and waterfowl refuges. The proposed action will not require the use of any wildlife and waterfowl refuges or existing public parks.

5.4.1 Historic Resources

Historic resources are subject to protection under Section 4(f) regulations if they are on or eligible for listing on the NRHP. Determination of eligibility is made by the Federal Highway Administration (FHWA). ~~FHWA has delegated this authority to the WSDOT. WSDOT made the~~ *were made* determinations of eligibility based on recommendations in the Cultural Resources report prepared to satisfy Section 106 requirements (summarized in the EIS). There are four National Register Criteria for Evaluation that an eligibility determination is based on: association with significant events (Criterion A); association with significant people (Criterion B); possession of significant design or construction (Criterion C); and association with information important in prehistory or history (Criterion D).

Section 4(f) applies to all archaeological sites on or eligible for inclusion on the National Register and which warrant preservation in place (including those discovered during construction). Section 4(f) does not apply if FHWA, after consultation with the State Historic Preservation Officer (SHPO) and the ACHP, determines that the archaeological resource is important chiefly because of what can be learned by data recovery (even if it is agreed not to recover the resource) and has minimal value for preservation in place.

The Tier II Draft EIS (pages 3-314, 3-315) described one archaeological site along SR 99 in the vicinity of the I-5 interchange portion of the project as potentially eligible for the NRHP. It also described 56 historic properties that were inventoried, with 5 appearing eligible for the NRHP. At the time the Draft EIS was published in February 2003, eligibility had not yet been determined by the State Historic Preservation Officer (SHPO). Subsequently more sites were surveyed bringing the total to 70, with one additional potentially eligible for the NRHP. SHPO concurred with the agency eligibility determinations. (See Appendix I.)

There is potential for additional archeological sites to be discovered during construction. In this case, where preservation of the resource in place is warranted the Section 4(f) process will be expedited. Also, the evaluation of feasible and prudent alternatives will take account of the level of investment already made. The review process, including the consultation with other agencies should be shortened, as appropriate. An October 19, 1980, memorandum with the Heritage Conservation and Recreation Service (now National Park Service) provides emergency procedures for unanticipated cultural resources discovered during construction.

On June 15, 2004, the SHPO concurred that the following resources (Table 5-1) were eligible for listing in the NRHP, therefore making them potentially subject to protection under Section 4(f) regulations:

Table 5-1: Historic Resources Eligible for the NRHP

OAHP ¹ Number	Parcel Number ²	Address	Description
45PI488	(not disclosed)	Along SR 99	Archaeological site
27-4154	P168	6803 20th St. E.	Residence
27-4125	P202	7001 20th St. E.	Residence
27-4114	P239	7717 Valley Ave. E.	Residence
27-4160	P490	3423 Freeman Rd.	Residence
Fife-A-1	(Baggenstos Farm)	N. Levee Rd.	Farmstead

¹Office of Archaeology and Historic Preservation

²Assigned by WSDOT

Site 45PI488 - This archaeological site is on a privately owned vacant lot located along SR 99. Based on the results of shovel testing performed in October 2000 and January 2001, the site appears to be confined to the southeast portion of the parcel. Limited testing produced two fragments of a formed tool, a charcoal sample, and lithic scatter. The site is considered significant under Criterion D, for it is likely to yield information important to Puyallup River Valley prehistory. It was determined, after consultation with SHPO, that this site has minimal value for preservation in place. Therefore, the archaeological site is not subject to protection under Section 4(f) regulations. This site is not shown on the vicinity map or a site plan in order to protect its integrity.



Site 27-4154 – This private residence is located at 6805 20th Street East. Built around 1940, this gable-front bungalow cottage is in excellent condition and retains its architectural integrity. In addition, its gardens and overall setting further enhance its Craftsman aesthetic. It was determined eligible for the NRIIP under Criterion C (Figures 5-2 and 5-4).



Site 27-4125 – This private residence is located at 7001 20th Street East. It was constructed around 1930, and is a one and one-half story bungalow with a gull-wing dormer and a shed-roof dormer. It retains excellent architectural integrity and is in good to fair physical condition. It was determined eligible for the NRIIP under Criterion C (Figures 5-2 and 5-4).



Site 27-4114 – Another private residence, this resource is located at 7717 Valley Avenue E. Built around 1900, this one and one half story bungalow with gull-wing style gable roof has excellent structural integrity, but is in only fair physical condition. It was determined eligible for the NRIIP under Criterion C (Figures 5-2 and 5-5).



Site 27-4160 – Built in 1902, this Craftsman style two-story private residence is located at 3423 Freeman Road. It has excellent exterior architectural integrity and is in excellent physical condition. It was determined eligible for the NRIIP under Criterion C (Figures 5-2 and 5-5).

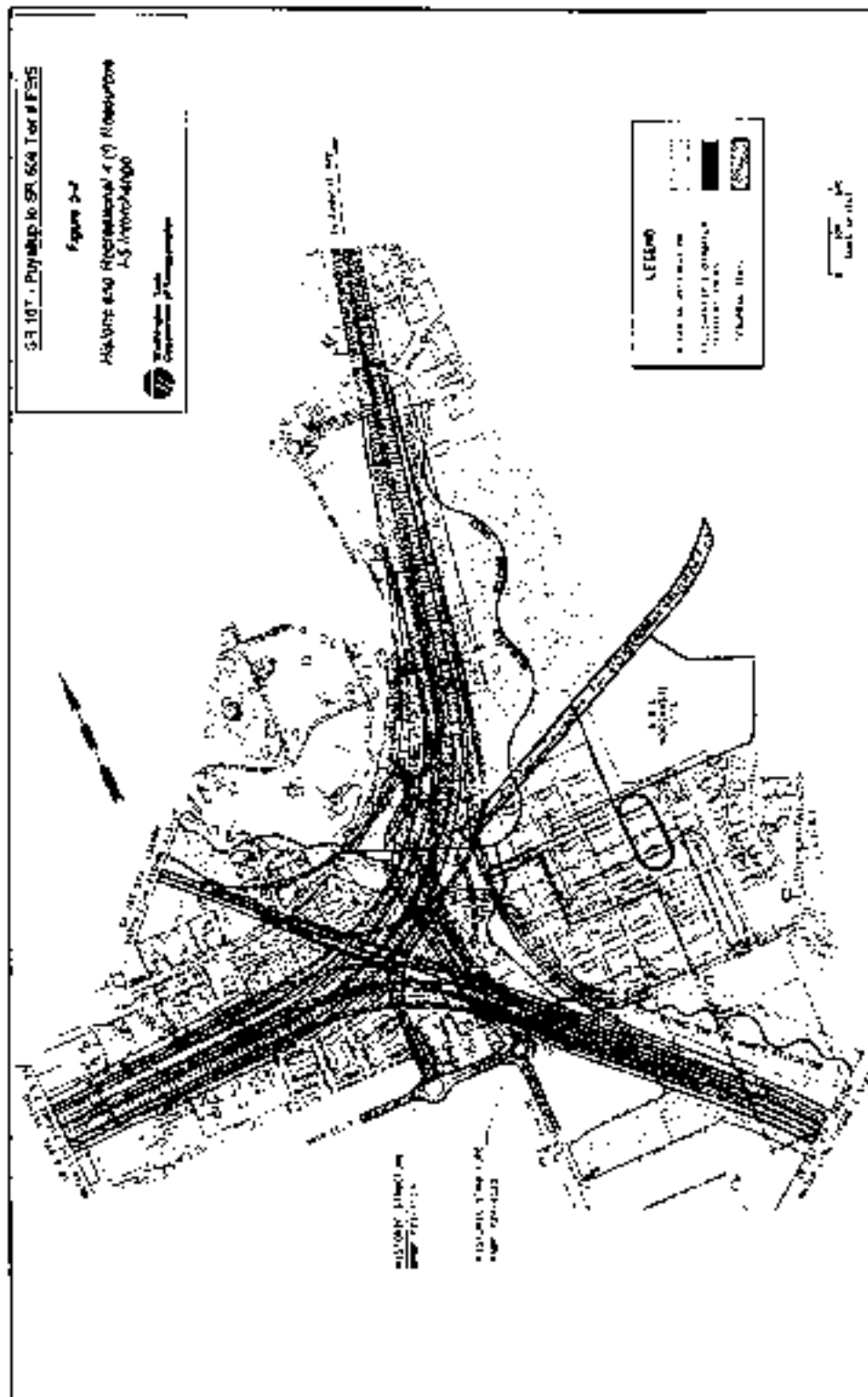


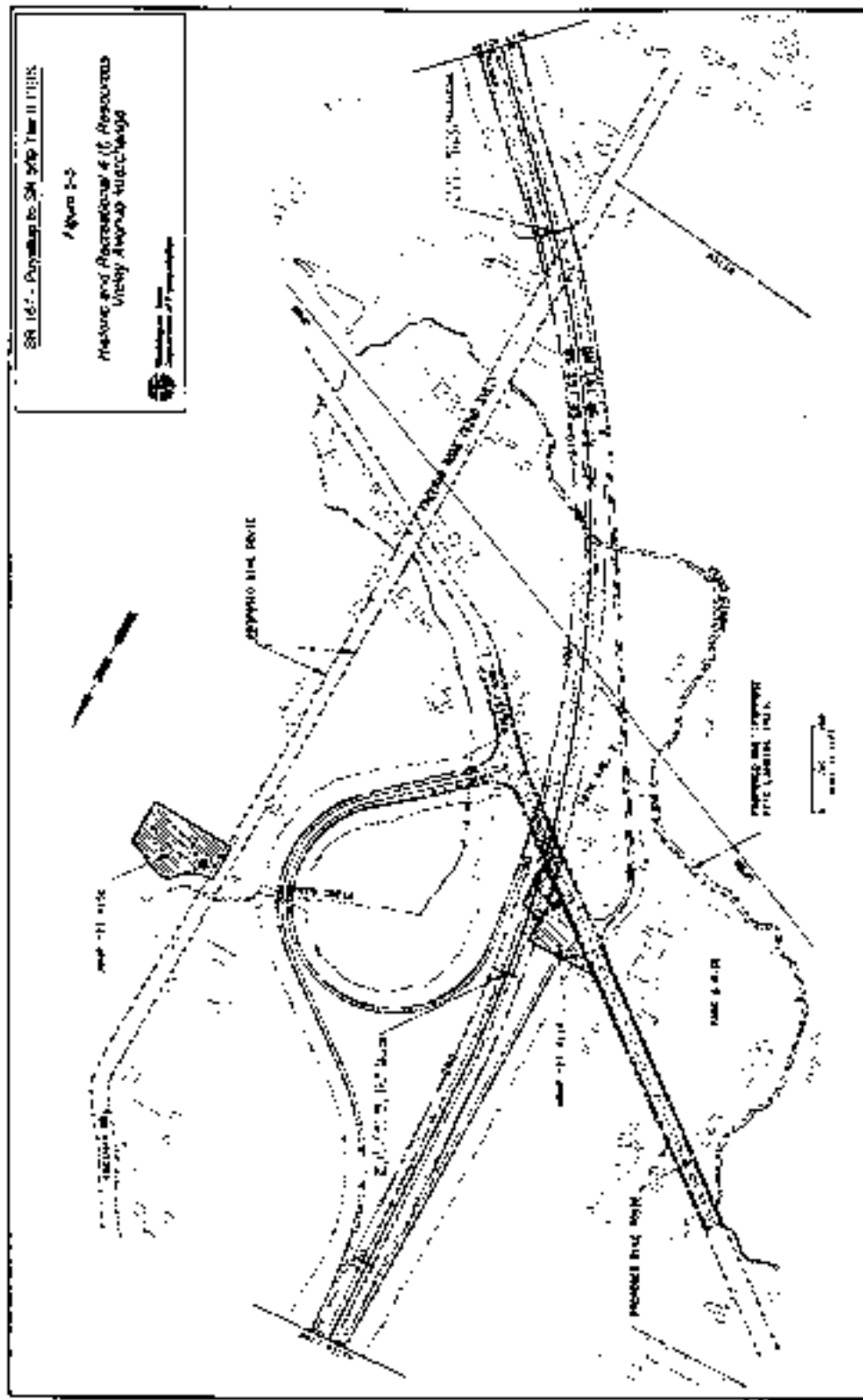
Figure 1

farming.

Site Five-A-1 – This property, known as the Haggens Farm, is a complex of buildings located at the proposed wetland mitigation site on N. Levee Rd. The buildings, dating to around 1920, include a farmhouse, vehicle garages, and a large barn that adjoins a dairy barn, leafing shed, and milk house. All buildings other than the garages are presently abandoned. The farmhouse retains good integrity of materials and appearance, but has lost its former association with dairy farming. The other buildings have also lost their historic association and function, and exhibit poor integrity. However, this group of buildings still retains a visibly recognizable association with early farming. It was determined eligible for the NRHP under Criterion A.



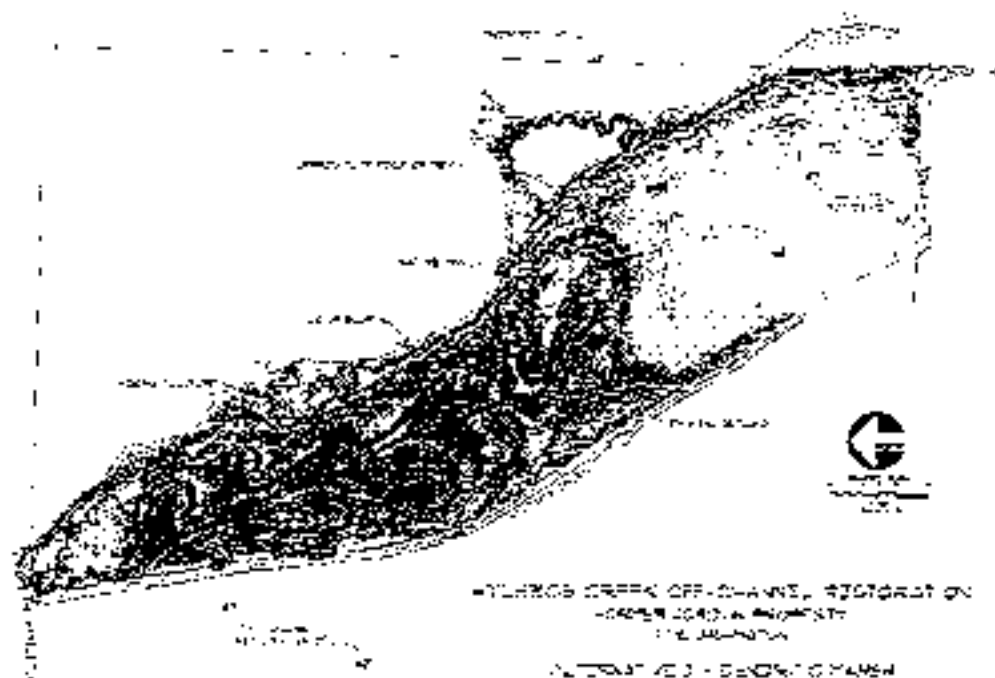




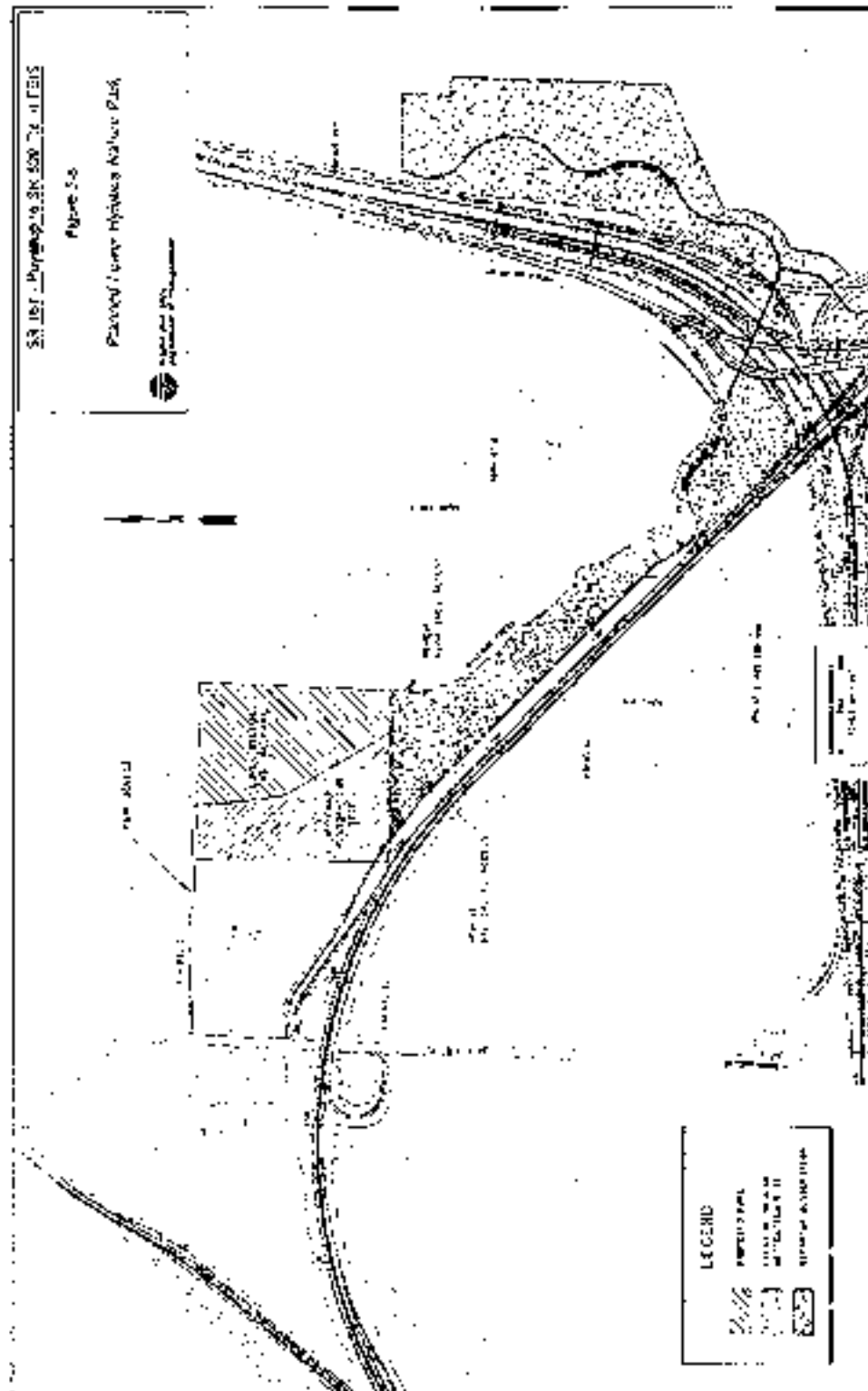
5.4.2 Recreational Resources

The Tier II Draft EIS described the existing and proposed parks and recreation facilities in the study area. Since publication of the DEIS the following resources have been proposed or identified within the project corridor.

Lower Hylebos Nature Park The City of Fife, together with the Commencement Bay Natural Resources Trustees, Pierce County, and the National Oceanic and Atmospheric Administration (NOAA), have a proposal to design and construct a restoration project adjacent to a tidally influenced reach of Hylebos Creek. The City of Fife owns the site and development of the site is limited to the usable 7 acres of a 15.3 acre parcel, the remainder being steep cliffs. The proposed restoration project will create off-channel habitat for juvenile salmonids and native plant vegetation. The 4(f) recreational resource is the nature trail, including viewing platforms and interpretive signs, that will be added to provide public access and educational opportunities, and, when completed, will be part of the City of Fife's park system.



NOAA is the lead agency for construction at this site, projected to begin in the summer of 2005. The City of Fife will operate and maintain the site after completion of construction. The 2005 construction program will include parking at the south entrance, near the intersection of 62nd Avenue and 8th Street East (Figure 5-6).



Planned Pacific National Soccer Complex - As early as the year 2000, the City of Fife developed plans for a city owned and run soccer facility. This planned facility would include, at a minimum, 12 lighted soccer fields, training facilities, a specially surfaced field for players with mental or physical disabilities, a headquarters for the Washington State Youth Soccer Association, and 500 to 600 parking spaces. Several locations were analyzed, including a site off North Levee Road and the preferred location on the east side of I-5, just north of 20th Street East and east of 70th Avenue East. The development of this complex is a joint project of Fife, the Washington Youth Soccer Association, and the Tacoma-Pierce County Junior Soccer Association. The city currently owns the preferred site, and the associations will build the facilities. Pierce County has partnered with both the City of Fife and the City of Milton to provide parking for both this planned facility and the planned improvements to the Interurban Trail, described below. Funding for this project is contingent on providing the minimum of 12 fields.

The city initially purchased a 41-acre site off North Levee Road in March of 2001. The North Levee Road site is outside of the project footprint. Further analysis performed by the City of Fife of the site determined that the original land was too costly to develop and too remote from the city commercial district and I-5. The estimated cost of utility extension and access improvements was \$8 million. The city is currently evaluating offers for the sale of this property, and the property was analyzed in the *SR 167 Conceptual Mitigation Plan*, June 2004, as an alternative wetland mitigation site.

The preferred 54-acre site adjacent to I-5 was identified by the city in late 2002. Initial plans were presented to the public in June 2003 and showed a combination of turf and grass soccer fields on three levels along with associated buildings and parking (Figure 5-4.) Located next to flood-prone Hylebos Creek, the site will be tiered to accommodate flood control. The lower level would flood often during the winter during off-season. The second level would also flood but not as frequently, and the third level, turf fields, would remain dry. The proponents have purchased the property, hired a design firm, and are hoping to begin phased construction as early as 2006.

As a planned facility there is no current usage, but the City of Fife has estimated as high as 50,000 families per month will access the site once operational and open to the public. The soccer complex site is also adjacent to the southern terminus of the planned Interurban Trail, described below.

Planned Interurban Trail – The City of Milton purchased the abandoned Puget Sound Electric railbed as a multi-use bicycle / pedestrian trail route, and has hired a consultant to develop it. They hope to begin construction on a 10- to 12-foot paved path with 2-foot gravel shoulders in 2006. This 33-acre trail begins by I-5 north of 20th Street East and east of 70th Avenue East, adjacent to the City of Fife's planned Pacific National Soccer complex, and proceeds northeasterly for approximately three miles (Figures 5-4 and 5-7).

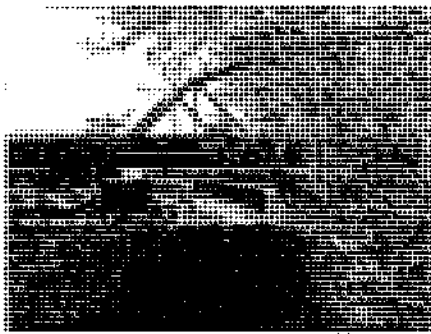


As a planned facility, there is no estimate of the number of users per year. Construction would be in three phases, potentially starting near the proposed I-5 interchange for the SR 167 project

This property will be improved using Washington Wildlife and Recreation Program Funding administered under the Washington State Office of the Interagency Committee (IAC)². By IAC policy, should a sponsor (the City of Milton) convert any portion of the project to a non-recreational use, that conversion must be approved by IAC. The conversion policy can be found in IAC

Manual 7 Funded Projects, page 10, March 17, 2004.

If a portion of the trail will be converted, the City would be required to replace what was converted at their own cost with a replacement of equivalent recreational value, location, and use. Depending on the size of the conversion, it may require IAC Board approval. The City would be required to go through the conversion process as outlined in the manual listed above. To briefly summarize the process, all alternatives to the conversion must be considered. There must be justification to support the proposed replacement, as well as site plans for the conversion site and proposed replacement site.



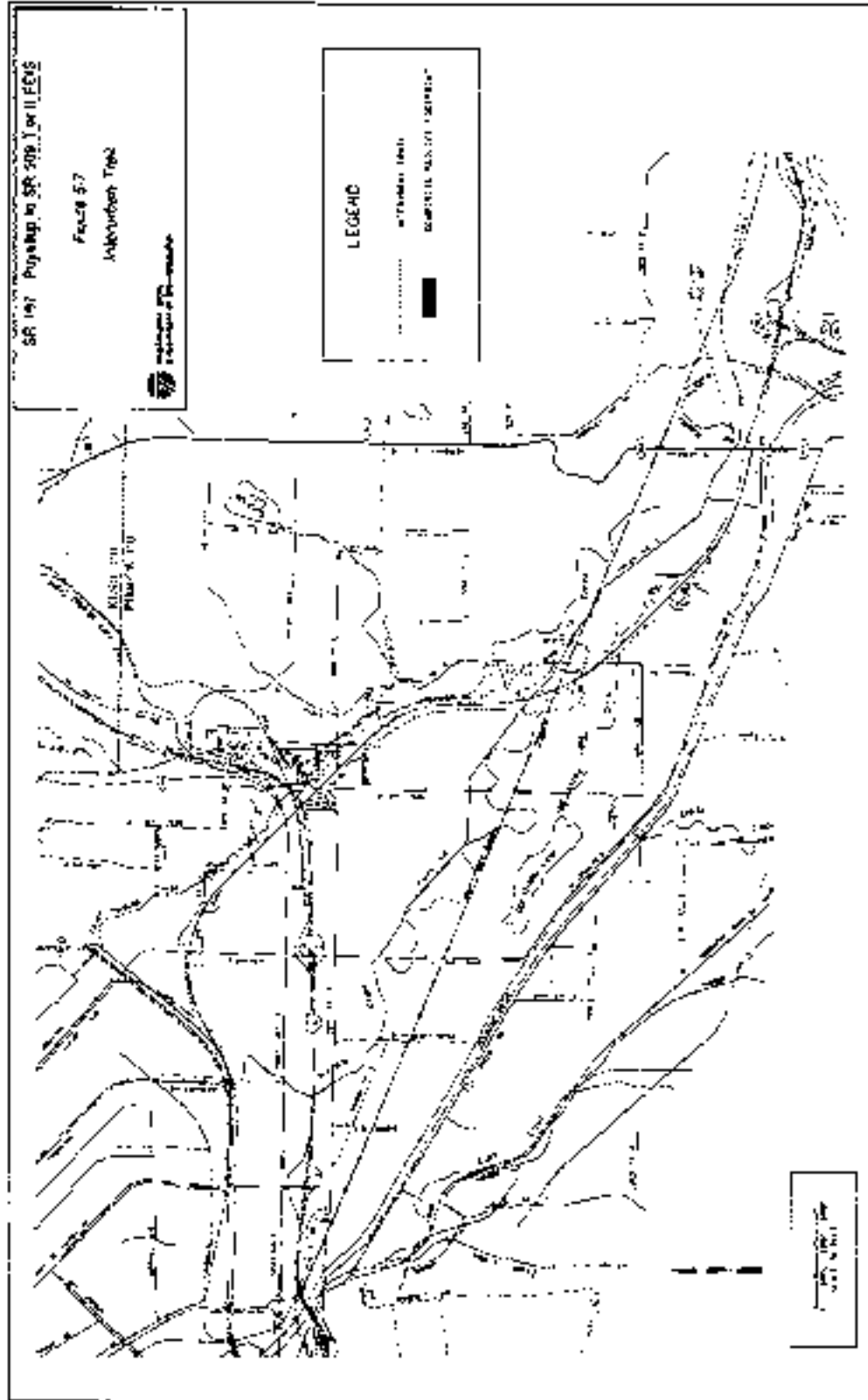
Riverfront Trail—This existing City of Puyallup multi-use trail extends along the south levee of the Puyallup River from the Milwaukee Avenue Bridge westward to the vicinity of 4th St. NW. It is 10 to 12 feet wide, paved, and passes beneath the two SR 167 Puyallup River bridges on its own structure. Current usage is estimated at 20 persons per day (Figure 5-8).

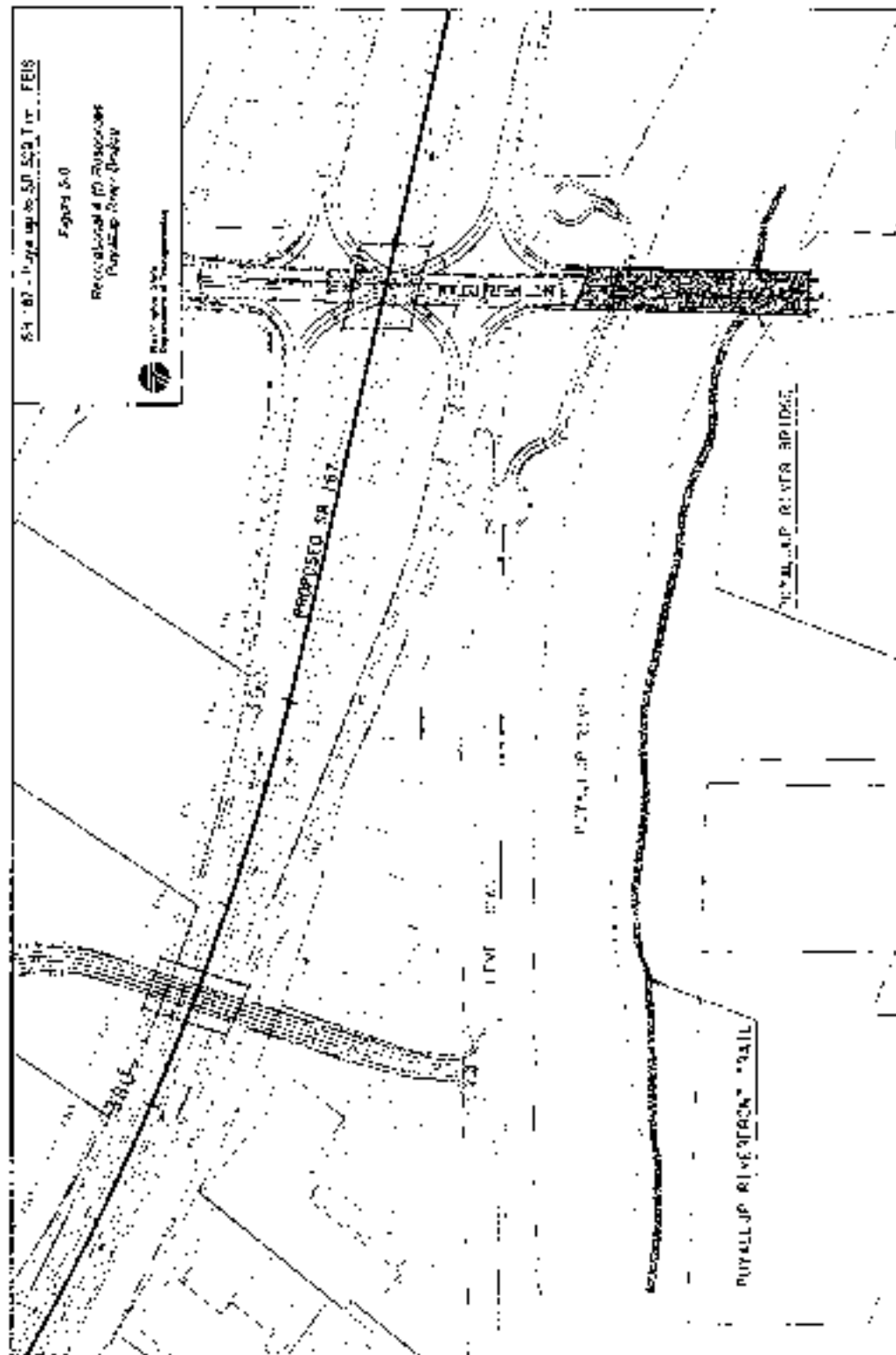
Planned North Levee Trail—This planned City of Fife trail is shown in the Comprehensive Parks, Recreation, and Open Space Plan as located on North Levee Road, extending from Freeman

Road northwest to the I-5 bridge over the Puyallup River with a connection to 20th Street East. Trails on transportation rights-of-way are not usually subject to Section 4(f) protection, but as a planned facility some parts of the trail may extend beyond the public street system. Portions of the trail that are proposed along Wapato Creek could be subject to Section 4(f) protection (Figure 5-3).

Puyallup Recreation Center—The recreation center consists of two adjacent facilities, a 25,000-square-foot indoor recreation center, and a 16-acre park with three multi-use softball/baseball fields and an overlying soccer field. Also included are a children's playground and passive area, and a walking/jogging trail (Figure 5-3).

² The Office of the Interagency Committee is a state agency that serves the *Interagency Committee for Outdoor Recreation (IAC)* and the *Salmon Recovery Funding Board (SRFB)*. The agency's staff, under the guidance of a director appointed by the Governor, implement policies and programs established by the two Boards, the Legislature, and the Governor.





5.5 Other Park, Recreational Facilities, Wildlife Refuges, and Historic Properties Evaluated Relative to the Requirements of Section 4(f)

The purpose of this discussion is to address Section 4(f) requirements relative to other park, recreation facilities, wildlife refuges, and historic properties in the project vicinity. As indicated below, the build alternative does not result in a use of these other Section 4(f) resources. The discussion of each resource either documents (1) why the resource is not protected by the provisions of Section 4(f) or (2) if it is protected by Section 4(f), why the build alternative does not cause a Section 4(f) use by (a) permanently incorporating land into the project, (b) temporarily occupying land that is adverse to the preservationist purposes of Section 4(f), or (c) constructively using land from the resource.

As noted above there are no wildlife and waterfowl refuges impacted by this project.

Some 70 historic properties within the area of potential effect (APE) were surveyed, with only those listed above being found eligible for the NRHP and therefore subject to Section 4(f) protection.

The following additional existing or planned recreation facilities are within the general vicinity of the project:

- Wapato Creek Trail
- Wapato Pointe PUD Trail
- Autumn Grove Trail
- Fife Landing Trail
- Fife Landing Trail Addition
- Fife Landing South Trail

Fife Landing South Trail – This trail extension, shown in the City of Fife's Comprehensive Plan 2002 Update, would follow Wapato Creek, crossing proposed SR 167 south of Valley Avenue and west of Freeman Road (Figure 5-5). As a planned facility, no estimate of the number of users is available. The Puyallup Tribe currently owns the land within the planned trail. Currently, no public agency owns the proposed trail corridor needed for right-of-way. Therefore, the Planned Fife Landing South Trail is not a 4(f) facility.

The remaining five existing and proposed trails listed above are all outside of the impact area of the project. Therefore, the provisions of Section 4(f) are not triggered.

5.6 Description of Use

5.6.1 Historic Resources

Of the five resources eligible for protection under Section 4(f), the project will require use of three historic residences (Table 5-2).

Table 5-2: 4(f) Use - Historic Resources Eligible for the NRHP

Parcel Number ¹	OAHF ² Number	Address	Section 4(f) Use	Description
P168	27-4154	6803 20th St. E.	Yes – demolition	Residence
P202	27-4125	7001 20th St. E.	Yes – demolition	Residence
P239	27-4114	7717 Valley Ave. E.	Yes – demolition	Residence
P490	27-4160	3423 Freeman Road	No	Residence
(Baggenstos Farm)	Fife-A-1	N. Levee Rd.	No	Farmstead

¹Assigned by WSDOT

²Office of Archaeology and Historic Preservation

Site 27-4154 – Under the preferred build alternative, there would be a use of this historic residence. The property is directly within the proposed relocation of 20th Street East and construction of a roundabout. It is proposed that the structure be offered for sale to a buyer willing to relocate the structure. The structure would be demolished if no qualified buyer was identified in one year.

Site 27-4125 – Under the preferred build alternative, there would be a use of this historic residence. The property is within the proposed I-5 interchange structures. It would also be adversely affected by the proposed relocation of 70th Avenue East with associated roundabout at the corner of 70th Avenue East and 20th Street East. It is proposed that the structure be offered for sale to a buyer willing to relocate the structure. The structure would be demolished if no qualified buyer was identified in one year.

Site 27-4114 – Under the preferred build alternative, there would be a use of this historic residence. Proposed widening of Valley Avenue East will adversely affect the property. The residence would be demolished by the proposed realignment of Valley Avenue with Valley Avenue Realignment interchange option. The Freeman Road and Valley Avenue (preferred) interchange options would require use of the property as well. The building would be under the proposed structure for mainline SR 167 and on the inside of the northbound SR 167 off-ramp, limiting access and increasing noise impacts to the residence.

Under the preferred Valley Avenue interchange option, the structure be offered for sale to a buyer willing to relocate the structure. The structure would be demolished if no qualified buyer was identified in one year.

Site 27-4160 – Under the preferred build alternative, no use, nor any constructive use, is expected of this historic residence. Although interchange options include widening of Freeman Road on the front (west) side of the site, the project can be designed to avoid any property acquisition.

Noise impacts were assessed in the Tier II DEIS and noise modeling near the site indicates noise levels will remain under 63-dBA under future buildout conditions with the proposed project. A noise wall for this area was determined to be not feasible and not reasonable because it is not possible to achieve a 7-dBA reduction. Visual impacts will be avoided, as the property front on Freeman Road currently has an extensive hedge system. In addition, the project proposes to install riparian plantings in the property directly across from the site on Freeman Road. These plantings of a riparian forest combined with an interchange off-ramp that is not elevated, will reduce the visual impacts from the project.

Site Fife-A-1 (Baggenstos Farm) – Under the preferred build alternative, there would not be a use of this historic farm. WSDOT will design the compensatory wetland mitigation site to avoid any identified 4(f) resource.

5.6.2 Recreational Resources

Of the seven recreational resources eligible for 4(f) protection, the project will require use of a planned facility and a multi-use trail (Table 5-3).

Table 5-3: Section 4(f) Use - Recreational Resources Eligible for 4(f) Protection

Recreational Resource	Location	Section 4(f) Use	Description
Planned Lower Hylebos Nature Park (Trail)	Adjacent to Milgard Restoration Site	No	Multi-use trail
Planned Pacific National Soccer Park	I-5 Interchange	Yes – land acquisition	Soccer facility
Interurban Trail	I-5 Interchange	Yes – land acquisition	Multi-use trail
Riverfront Trail	Puyallup River Bridge	No	Multi-use trail
Planned North Levee Trail	N. Levee Rd.	No	Multi-use trail
Puyallup Recreation Center	WSP Weigh Stations	No	Community recreation center

Planned Lower Hylebos Nature Park (Trail) – Under the preferred build alternative, access to this proposed trail will be limited by the removal of 8th Street East and 62nd Avenue East. There is no required use of this proposed trail. FHWA and WSDOT met with the City of Fife on May 8, 2003, and June 2, 2004, to discuss access issues for this proposed restoration project. The City of Fife has stated that a change in the location of proposed parking (at 8th Street East) would require an amendment to the city's Shoreline Permit although an alternative access point to this site, 4th Street East, exists. In addition, NOAA and its partners (the U.S. Army Corps of Engineers) do not currently support changing the location of access to the site. Access to this proposed trail exists through 4th Street East, therefore will be no constructive use of this 4(f) facility. FHWA and WSDOT will continue to work closely with the City to address parking and access needs as project design is finalized.

Planned Pacific National Soccer Complex – Based on the project footprint of the proposed I-5 Interchange, relocation of 20th Street East, and the relocations of Hylebos Creek and Surprise Lake Drain with associated buffers as shown in

the February 2003 Tier II DEIS and a preliminary design drawing from the City of Fife depicting a potential 18 soccer fields at the complex site, the project would require use of 12 of the 18 proposed soccer fields (Figure 5-4). Through minimization measures and coordination with the City of Fife, use of these soccer fields have been limited to 6 of the currently designed 18 soccer fields (Figure 5-13).

Interurban Trail – The relocation of Hylebos Creek, mitigation for stream fill, would require use of approximately two to three acres at the southerly terminus of the trail (Figures 5-4 and 5-7).

Riverfront Trail – This existing trail beneath the two SR 167 Puyallup River bridges will require access to the path be limited during construction, for safety reasons. The ownership of the trail would not change; there will be no adverse change to the function of the trail; and no land would be acquired from the trail. FHWA, WSDOT, and the City of Puyallup are committed to work cooperatively in identifying an acceptable interim route for the trail during the course of construction. (See documentation at the end of this chapter.)

Noise impacts in the vicinity of the Riverfront Trail were assessed in response to comments received on the SR 167 Tier II Draft EIS. Existing noise levels range from 65 to 71 dBA. Noise modeling indicated that future conditions without the project will cause noise levels to increase from 2 to 9 dBA. Future build out with the project will cause noise levels to increase an additional 1 dBA. Although the projects contributions to noise impacts are minimal, a noise wall along the south shoulder of SR 167 between Milwaukee Avenue East and SR 167/161 was found to be both feasible and reasonable. Noise mitigation will be provided at this location. Visual impacts are not anticipated at this site, as there will be no substantive change to the trail area from the project. Therefore, there is no constructive use of the site.

Planned North Levee Trail – This planned trail is proposed to run adjacent to one of the proposed wetland mitigation sites in the *SR 167 Conceptual Mitigation Plan*, WSDOT February 2005. Part of the wetland mitigation proposal at this site includes breaching of the Puyallup River dike and N. Levee Rd. to provide hydraulic connectivity for the wetlands being established. WSDOT has not identified a preferred mitigation site(s), therefore there is no use of this planned trail by the project at this time. Should that change in the future, a separate 4(f) evaluation will be circulated.

Puyallup Recreation Center – There would be no right of way acquisition from the center, so no Section 4(f) land would be permanently used by being incorporated into a transportation facility. There would be no access impacts, as access for the center is from the local street system on the opposite side from the highway. The Tier II DEIS and the studies performed in support of it did not indicate any impacts that would affect the function or use of this facility. The aesthetics in the vicinity of the recreation center may be somewhat impacted. The roadway will become a dominant element within the rural setting adjacent to the baseball fields. The lights from cars at night will detract from current views. Mitigation proposed includes use of architectural or vegetative screening to block the view of traffic and vegetating the embankment side slopes.

*update w/
Jim's daughter
memo*

The noise study prepared in support of the Tier II DEIS (Parsons Brinkerhoff, 2001) indicated noise at the recreation center would increase from 52 dBA to 70 dBA, which is a substantial increase from the existing and no build conditions. The FHWA noise abatement criterion for active recreation areas is 67 dBA. Construction of a noise wall at that location was found to be feasible because a 10-foot-high wall 2,400 feet long would provide a 7 dBA-reduction in noise for the Recreation Center. However, it was determined to be not reasonable under established WSDOT criteria. Using the "Noise Evaluation Procedures for Existing State Highways" (WSDOT Directive D 22-22), a residential equivalency of 15 homes was calculated for the center based on the number of users. In order to achieve the 7-dBA reduction in noise, the recreation center would need a residential equivalency of 25 homes.

5.7 Avoidance Alternative

5.7.1 No Build Alternative

The No Build Alternative, while it will avoid impacts to all 4(f) resources, does not satisfy the purpose and need of the project, which is to improve regional mobility, serve freight and passenger movement, reduce congestion and improve safety, improve system continuity between I-5 and the SR 167 freeway, and maintain or improve air quality.

5.7.2 Tier I

The design of a new freeway that would connect existing SR 167 (where it connects with North Meridian in Puyallup) to I-5 and, ultimately, SR 509 is limited to an area between the Puyallup River to the south and Fife Heights (steep slopes) to the north. This narrow section of the Puyallup River Valley is completely within the external boundary of the Puyallup Tribal Reservation and contains a number of tribal trust properties. The Puyallup Tribe has voiced strong opposition to any corridor alternative that requires the use of tribal trust lands. Designs for this new freeway must also factor in existing environmental resources such as Wapato Creek, Oxbow Lake, Surprise Lake Drain, and Hylebos Creek; wetlands (over 107 acres of wetlands delineated by the project in this area); and associated floodplains. Furthermore, design options for an interconnection with I-5 are limited to the two existing interchanges (Port of Tacoma and 54th Avenue East) and one potentially new interchange around 70th Avenue East.

With these limitations in mind, all corridor alternatives that would provide the necessary connections within this short segment were evaluated. Tying the proposed SR 167 Extension freeway into the existing I-5 / 54th Avenue East Interchange was never considered a viable option. That interchange and adjoining surface streets are built-out and operating at maximum capacity. The I-5 / 54th Avenue East Interchange, and the signalized 54th Avenue East intersections with 20th Street East and Pacific Highway were all operating at a

Level of Service (LOS) "F" back in 1990. Impacts to this industrial/commercial area would require extensive and significant displacement and relocation costs.

Several 4(f) recreational resources such as Yamamoto Park, Fife Community Pool, Centennial Park, Wapato Nature Area, Wedge Park, and Dacca Park would be difficult to avoid. Up to 40 known historic 4(f) resources exist within this corridor path.

Rebuilding the entire system, adding additional traffic to this system, and designing a corridor that avoids all 4(f) resources while still meeting the purpose and need of the project is potentially not feasible and is not prudent. Therefore, all corridor alternatives that would connect with the existing I-5 at 54th Avenue East were rejected.

This left a total of nine corridor alternatives which were further analyzed. The remaining alternatives were subjected to an initial screening analysis based on several criteria detailed below and were presented for public review.

Use of 4(f) Protected Resources

Eastern Washington University Archeological and Historical Services (AHS) performed the cultural resources overview for the SR 167 Tier I EIS. Background research included consultation with personnel at the Washington State Office of Archaeology and Historic preservation (OAHP) in Olympia prior to 1993. Findings included three properties recorded by Pierce County and an ethnographically documented Puyallup winter village. As confirmed in the Cultural Resource Investigations for the Washington State Department of Transportation's SR 167: Puyallup to SR 509 Project, Pierce County, Washington, AHS May 2004, and the June 15, 2004, SHPO concurrence, the three recorded properties, George Hoertrich Electrical Shop, the Golden Rule Motel, and the Firwood School Gymnasium, do not meet the National Register Criteria.

However, a number of recreational 4(f) resources were identified, including the Fife Community Pool, the proposed Nisqually Delta/Mount Rainier Trail, the proposed Wapato Creek Nature Trail, the Puyallup Recreation Center, and various bike trails.

Tribal Trust Lands

Corridor alternatives that would require use of Tribal Trust Lands were ~~determined to be not feasible or prudent~~. Acquisition of Tribal Trust Lands would be entirely dependent on whether the Puyallup Tribe is a willing seller of their entrusted property and the tribe clearly indicated its opposition to such a sale.

Avoidance of Wetlands, Streams, and Floodplains

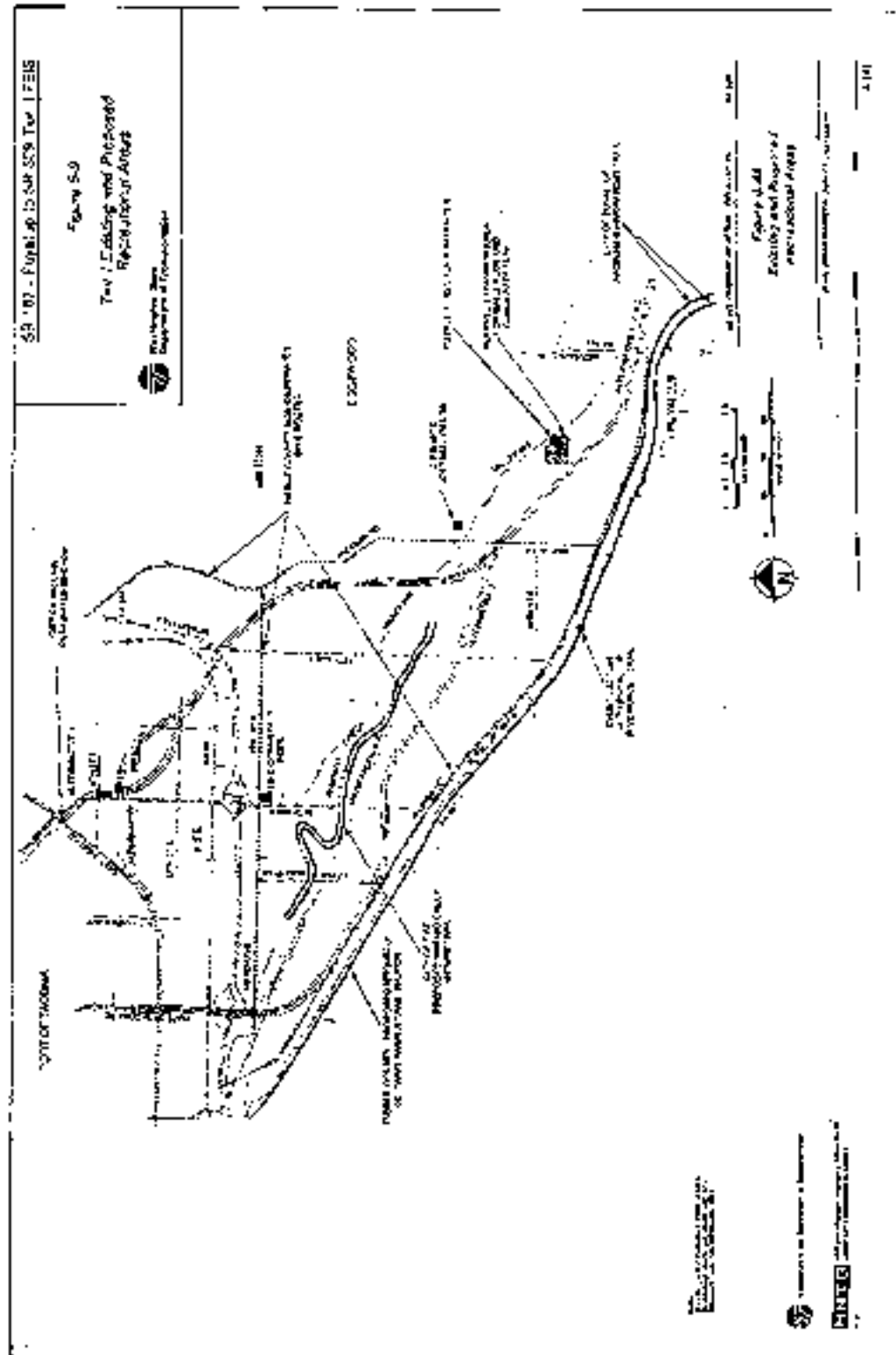
Corridor alternatives that would have significantly greater impacts to wetlands, streams, or floodplains were determined to be not feasible or prudent. Any impacts to these resources require a permit from the U.S. Army Corps of Engineers, per Section 404. The permitting agency clearly indicated that only alternatives that avoided or minimized impacts to these resources would meet permit requirements.

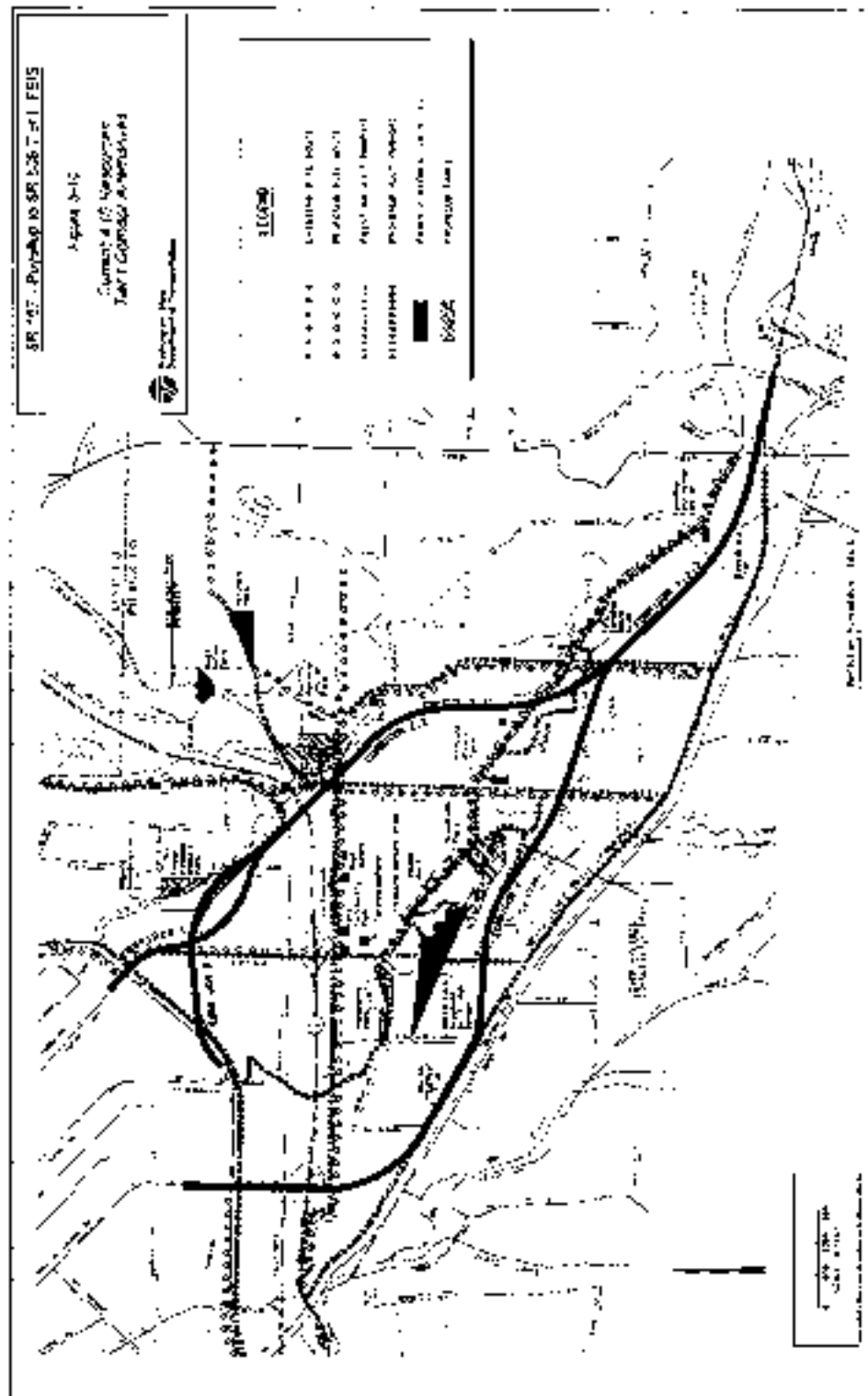
Of the nine corridor alternatives, six alternatives would impact tribal trust lands while at the same time having significantly greater impacts to aquatic resources

such as wetlands, streams, and floodplains. In addition, all of these alternatives would impact 4(f) resources. Due to these increased environmental impacts, the opposition of the Puyallup Tribe to use of tribal trust properties, and the impact to additional 4(f) resources, these corridor alternatives are not feasible and prudent avoidance alternatives.

Only three corridor alternatives avoided all of the then identified 4(f) resources, including the then proposed Riverfront Trail, proposed Wapato Creek Nature Trail, North Levee Bike Route, and the Puyallup Recreation Center, as shown in Figure 5-9.

Pursuant to 23 CFR §771.135(o)(2), the three remaining corridor alternatives in Tier I were reviewed based on additional design details and identified 4(f) resources. Figure 5-10 shows the overlay of the three Tier I corridor alternatives and current identified 4(f) resources.





Tier 1 Corridor Alternative 1

Based on the current analysis of 4(f) facilities, the following historic and recreational 4(f) resources would require a use by Corridor Alternative 1:

- Historic 4(f) resource: the Baggenstos Farm (Fife A-1)
- Recreational 4(f) resources:
 - = A planned park adjacent to 54th Avenue East;
 - = The planned North Levee Trail; and
 - = The existing Autumn Grove trail.

*what's here?
happened*

All potential historic 4(f) resources may not have been identified for this corridor, as the cultural resource survey performed for the Tier II document was limited to the preferred Tier 1 corridor alternative (2).

Corridor Alternative 1 is not a prudent alternative due to the following factors:

1. Impacts to Puyallup Tribal Trust Lands: Corridor Alternative 1 would bisect one of the few remaining large tribal trust properties for the Puyallup Tribe, and was not supported by the Tribe (Figure 5-11). A number of project related issues remained unresolved with the Puyallup Tribe, including visual, noise, and traffic impacts to Tribal Trust Lands, but the Tribe clearly indicated would only support a corridor alternative which avoided all Tribal Trust Lands. Commitments to the Puyallup Tribe are in Appendix K of the SR 167 Tier I EIS and the Tier I Record of Decision (ROD).
2. Wetlands: Wetland impacts were reanalyzed as part of the *404(b)(1) Alternatives Analysis*, WSDOT July 2004. A 220-foot corridor width had been applied in estimating wetland impacts for the Tier I document. Refinement of the corridor in Tier II revised the footprint of the project such that impacts were evaluated within an approximately 400-foot area, to accommodate interchange options and park and ride facilities. Application of a 400-foot-wide zone to the analysis of wetland impacts significantly increases the amount of impacts associated with Corridor Alternative 1.
3. Also, although Tier I wetland impacts were based on wetland inventories³, one partially delineated wetland⁴ would be impacted by Corridor Alternative 1 which also increased impacts. Table 5-4 shows the revised wetland impact analysis.

X

³ U.S. Fish and Wildlife National Wetland Inventory maps, along with the Pierce County, City of Fife, and City of Puyallup wetland inventory maps were used to identify wetlands in the project area in Tier I.

⁴ Wetlands were delineated in accordance with the U.S. Army Corps of Engineers *Wetland Delineation Manual* (Environmental Laboratory, 1987). Not all wetlands were completely delineated (i.e. all boundaries and buffer areas identified), just wetlands within the project footprint.

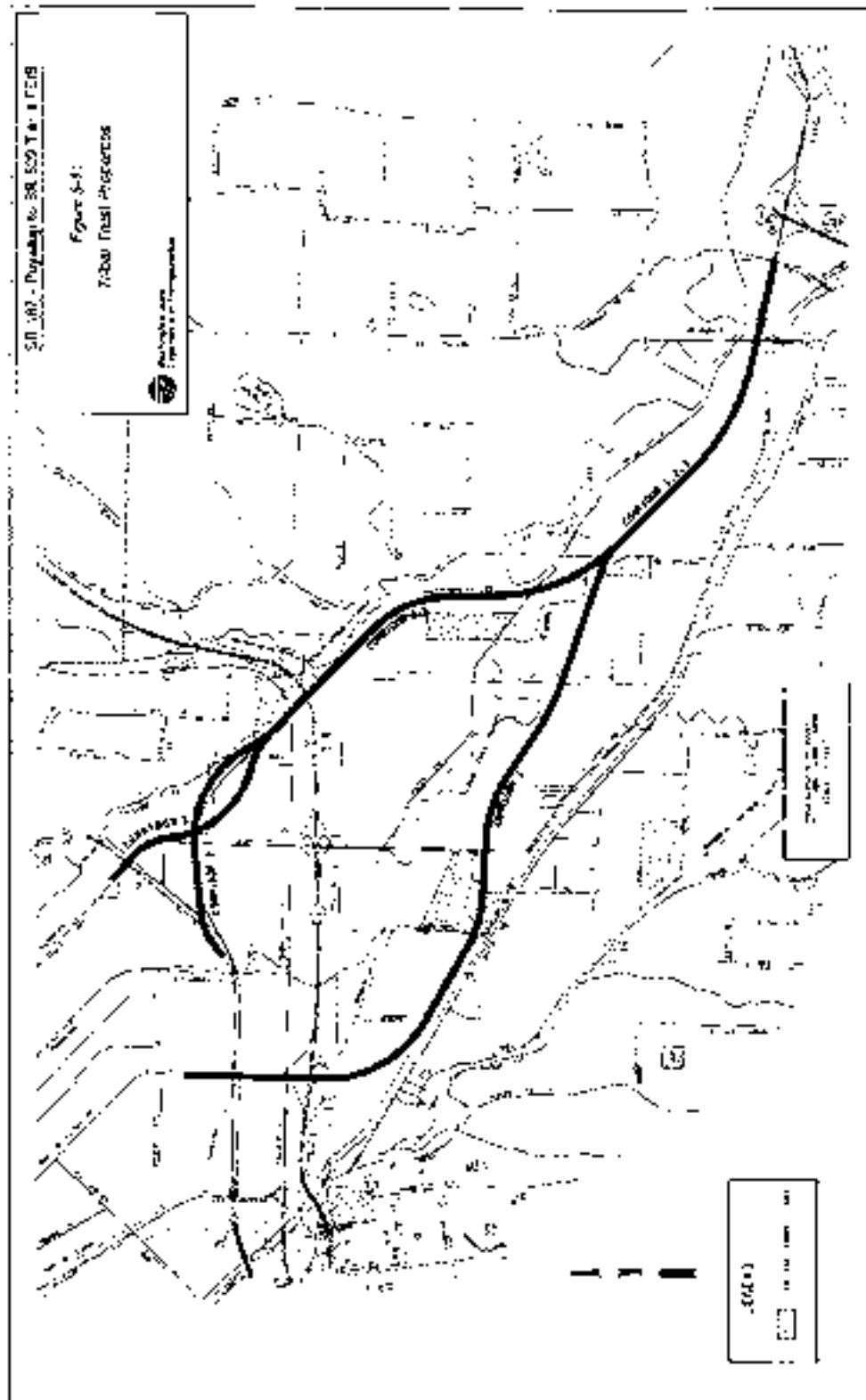


Table 5-4: Revised Estimated Tier I Corridor Wetland Impacts

Corridor Alternative ^a	Segments	Tier I FEIS Wetland Impacts	Revised Estimated Wetland Impacts
Corridor 1	A & E	14.55	>37.89 ^c
Corridor 2	A, B, & C	7.44	32.9 ^b
Corridor 3	A, B, & D	15.98	>44.08 ^c

a) Corridor Alternative from the Tier I EIS.

b) Corridor 2 impacts are not an estimate, but actual project impacts from the Tier II EIS.

c) Currently definable estimates. These impacts would most likely increase proportionally with field delineation along the entire corridor.

Corridor Alternative 1 would also limit mitigation opportunities in the Puyallup River basin, as the corridor would impact the Union Pacific Railroad Site, which has a high potential for mitigating all of the projects impacts for wetland fill activities.

Floodplain impacts: The levy system on the Puyallup River is currently failing due to excessive buildup of sediment and the determination by the US Army Corps of Engineers, that dredging the sediment is no longer a supportable practice. A study is underway to determine the new boundaries of the floodplain in the Puyallup River Basin. Corridor Alternative 1, with its proximity to the Puyallup River, would be within the extended 100-year floodplain. Designing the roadway within this extended floodplain would be very difficult and potentially costly, as determining what the impacts of the failing levy system would have to facilities in the proximity of the Puyallup River are not currently available.

Floodplain benefits: Corridor Alternative 2 includes the relocation of Hylebos Creek. This relocation will address current and future projected increased flooding of I-5 in the vicinity of the City of Fife (Fife Curve). Corridor Alternative 1 would not require the relocation of Hylebos Creek.

Tier 1 Corridor Alternatives 2 and 3

Corridor Alternative 2 and 3 differ only between SR 509 and the I-5 Interchange. Therefore, all 4(f) resources affected by the preferred alternative would also be used by Corridor Alternative 3. Corridor Alternative 3, as shown in Table 5-4, would have the most significant wetland impact of the corridor alternatives. With 44 acres of wetland impacts, the project would fail to receive the necessary permits to construct the project. Specifically, Corridor Alternative 3 would fail to meet the requirements for Section 404, specifying a design that is the Least Environmentally Damaging and Practicable Alternative (LEDPA).

There are no corridor alternatives meeting the purpose and need of this project that would avoid 4(f) resources based on the current analysis of 4(f) resources. Corridor 1 would use three recreational resources and Corridors 2 and 3 would use two recreational resources. Although one, as opposed to three, historic resources have been identified for Corridor 1, additional historic resources are document in the vicinity of Corridor 1. In addition, Corridor Alternatives 1 and 3 are not feasible and prudent avoidance alternatives due to their impacts to

wetlands and the determination by the U.S. Army Corps of Engineers that these alternatives are not LEDPA.

5.7.3 Tier II

In the Tier II analysis, the preferred Corridor Alternative 2 design was refined and interchange options were developed as described in the previous section, Alternatives and Options. Avoidance alternatives associated with the interchanges are discussed below.

I-5 Interchange

After the ROD for the Tier I EIS was approved by FHWA, the mainline alignment of SR 167 had to be redesigned because geometric design standards were not met. For the mainline redesign, five different centerline-only options were developed for SR 167 between SR 509 to just south of the I-5 Interchange. All these options met the current design standards and changed the I-5 crossing from a horizontal curve to a tangent section.

Avoidance of the Planned Pacific National Soccer Facility

State and Federal guidelines require a minimum distance of 1 mile between interchanges. Because of the location of Hylebos Creek and the geography of the area in this vicinity, it is not possible to place this interchange any further north than 0.8 miles from the 54th Avenue East I-5 Interchange. In addition, any redesign of the SR 167 mainline to the north would continue to require use of the Interurban Trail. Based on these factors, it is neither feasible nor prudent to relocate the mainline to the north in an attempt to avoid the planned Pacific National Soccer Facility.

Avoidance of Historic Resources

The proposed I-5 interchange location is also limited by the two historic 4(f) resources on 20th Street East on the south/west side of the alignment. Avoidance of these two historic resources would require the relocating the interchange at least 300 feet, which would not meet standards for placement of interchanges to the south. In addition, relocating the proposed I-5 Interchange closer to existing 54th Avenue East Interchange would impact a commercial area of the City of Fife. As shown in the picture below, the majority of the impacts would be associated with an apartment complex with 241 units, with one through three bedrooms. This complex has a requirement to fill 20 percent of the complex with low income families. The apartment complex reported 90 percent occupancy in 2001. Displacing these families would increase displacement impacts associated with the I-5 Interchange by 217 to 241 Multi-Family Units, an impact of extraordinary magnitude. Therefore, redesigning the mainline to avoid these 4(f) resources is neither feasible nor prudent.



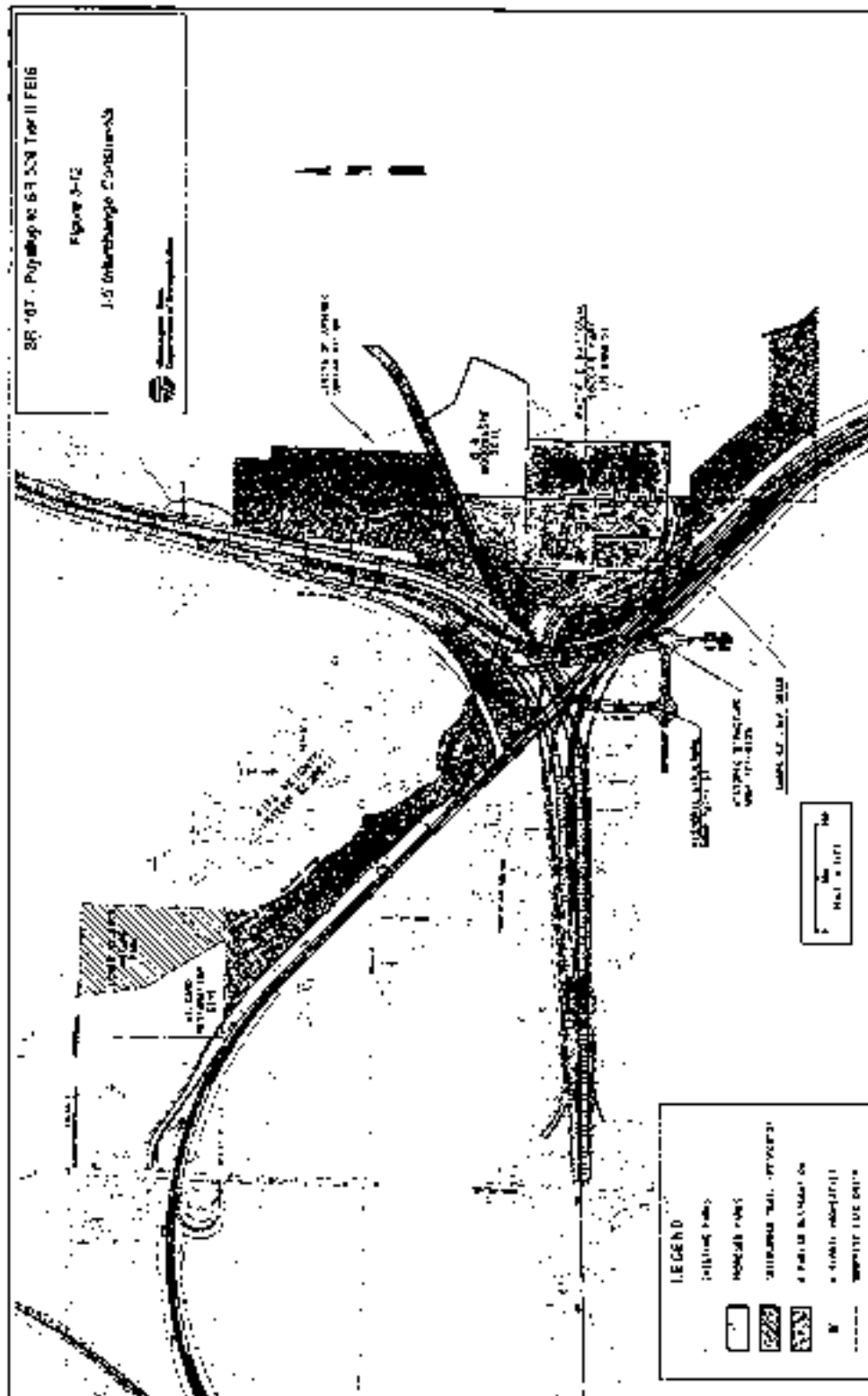
SR 167 Bridge Over Existing 20th Street East

SR 167 will have a direct impact on 20th Street East. Maintaining 20th Street East in its current alignment would avoid the historic (4E) resource, Site No. 27-4154. Extending the structure for the I-5 Interchange to provide continued access for this local road was evaluated.

In order to accommodate required bridge clearance for this existing roadway, the I-5 Interchange would be required to be elevated to four levels. This option was evaluated in the *Value Engineering Study Report, SR 167 and I-5 Interchange*, October 2000.

Residents in the Five Heights area expressed concern based on visual impacts from the elevated structures. At three levels, the I-5 interchange will be approximately 80 feet high; adding a fourth level to the I-5 interchange will add approximately 26 to 30 feet of height. Visual and audible impacts for these residents would occur if a four-level interchange was developed (Figure 5-12).

Cost estimates for additional structures necessary for a four-level interchange would be \$87.5 million more than a three-level interchange, due to poor soil stability. Although it is feasible that a four-level structure could be designed for the proposed I-5 interchange, it is not prudent due to an additional construction cost of extraordinary magnitude. Therefore, it was determined that both 70th Avenue East and 20th Street East should be realigned in order to keep the total interchange at three levels.



Placement of the relocation of 20th Street East is limited by design factors, such as the distance between the two-lane roundabouts associated with the 20th Street East and 70th Avenue East relocations. If the relocation was shifted to the west, a large apartment complex described above would be impacted requiring extensive relocations as well as high real estate costs. The apartment complex also contains 48 Section 8, low-income units. Impacts to the apartment complex would include environment justice impacts, due to those low-income facilities. In addition, none of the potential designs for 20th Street East would avoid all 4(f) resources. Therefore, it is not prudent to bridge existing 20th Street East or relocate 20th Street East to the west.

Relocation of Hylebos Creek

The southern terminus of the Interurban Trail and the planned Pacific National Soccer Park are impacted by the proposal to relocate Hylebos Creek. Existing Hylebos Creek, between the existing 70th Avenue East bridge and the first existing I-5 crossing, would be filled as part of the northbound I-5 widening. Leaving the creek in the existing location but inside a closed pipe, would not be acceptable to permitting agencies. Impacts to the creek affect 2,050 linear feet of stream bed. Closed pipes of any significant length are an effective block to aquatic species, such as salmonids. Therefore, a closed pipe could not be installed in the existing location.

Relocating the creek further to the west side of proposed I-5 widening would not provide enough riparian buffer to meet City of Fife Critical Area Ordinances. The channel would need to be linear and potentially armored, which would impact the creek instead of improve it. Furthermore, this area is needed to provide water quality treatment for mainline I-5 and the southbound I-5 to SR 167 off ramp. This is because I-5 in the vicinity of the proposed interchange drains all highway runoff to the west with no other options to channel the stormwater elsewhere.

Crossing I-5 at the preferred location provides the fewest impacts to Hylebos Creek and optimizes flood conveyance. The proposed design will reduce existing and future flooding problems in the vicinity, according to a study prepared for WSDOT (MGS et al., 2004). Portions of I-5 in this vicinity were flooded during the 1990 and 1996 floods. WSDOT is evaluating the I-5 profile in an effort to keep the new I-5 crossing of Hylebos Creek above the floodwater. WSDOT is limited on how high the I-5 profile could be elevated because of the height limitations on the interchange structures due to foundation considerations, and the additional structural costs resulting from extending bridge lengths in response to raising the I-5 profile. Therefore, the relocated stream channel will be designed to successfully address both existing and future flooding of I-5.

WSDOT considered locating the new Hylebos Creek crossing in the vicinity of the existing 70th Avenue East Bridge. This would reduce the channel length required for the relocation, avoid impacts to a sewer main, and avoid impacts to the Interurban Trail.

However, this option would not function as efficiently for flood conveyance as the preferred option, potentially resulting in flooding of the new I-5 freeway

bridge over Hylebos Creek, and would not resolve the existing problems of flooding over I-5 lanes.

Also, if the Hylebos crossing was moved further north, it would impact the crossing of Surprise Lake Drain. If the Surprise Lake Drain crossing is moved further north, then this stream will impact the Interurban Trail. If a connection to relocated Hylebos Creek is not provided, then two bridges at I-5 would be required instead of one, which will add cost to the project.

Relocating Hylebos Creek further north would also have greater ecological impacts to Hylebos Creek because of the construction of relocated 70th Avenue East and the southbound I-5 to northbound 167 Off-Ramp. For the reach between the existing SR 99 and 70th Avenue East bridges, the remaining riparian buffer for Hylebos Creek would be reduced to essentially zero on the north and about 100 feet to the south. These buffers are deficient by any scientific standard, including the City of Fife's Critical Areas Ordinance, and the Integrated Streambank Protection Guidelines, which is WSDOT's standard for best available science. This option would also eliminate the wildlife linkage with the Surprise Lake Tributary, and require separate I-5 crossings for this tributary stream. WSDOT would not likely acquire permits for this work.

Surprise Lake Drain Relocation

The Planned Pacific National Soccer Facility is located within the ditched system of Surprise Lake Drain. The project has proposed to relocate Surprise Lake Drain as part of the mitigation for fill of Surprise Lake Drain by the mainline section of SR 167. In the DEIS, the relocation of Surprise Lake Drain would be located to the east of relocated 20th Street East. The relocation as originally proposed, and the riparian buffer (at least 150 feet wide), would impact the planned soccer facility, requiring use of 12 of 18 proposed soccer fields (approximately 40 of 54 acres) (Figure 5-4).

Through coordination with the City of Fife, WSDOT redesigned both the relocation of 20th Street East and the relocation of Surprise Lake Drain. This redesign, though limited by roadway curvature standards for 20th Street East and regulatory buffers for Surprise Lake Drain, minimizes use of the soccer facility such that the City of Fife will be able to design 12 soccer fields in the remaining area (Figure 5-13).

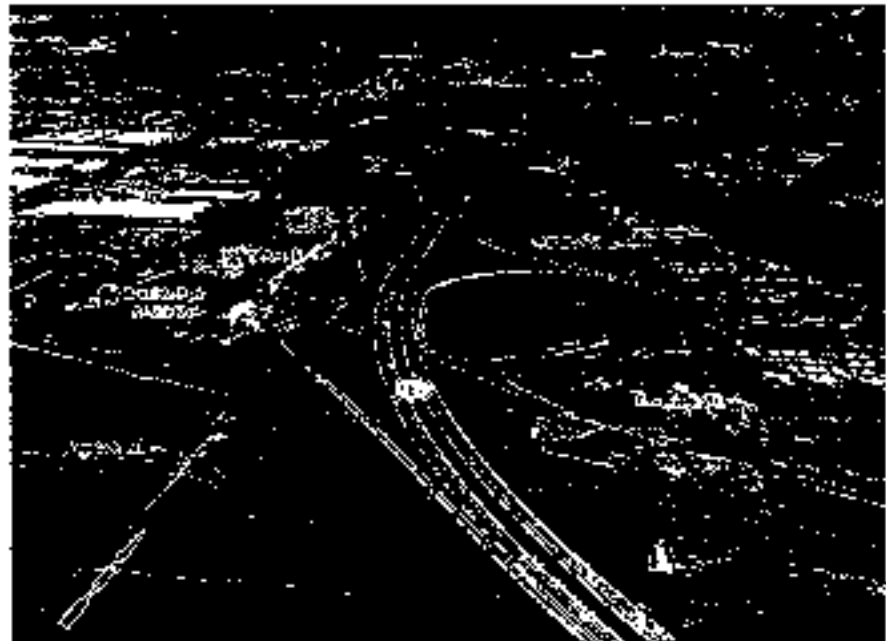
Valley Avenue Interchange

The SR 167 corridor alignment in the vicinity of Valley Avenue is limited by a historic and recreational 4(f) resource to one side, and a historic 4(f) resource on the other side.

One historic resource, a residence, is beneath the structure of the mainline alignment as it bridges Valley Avenue. This residence would be located between the structure of mainline SR 167 and the proposed off-ramp from northbound SR 167 to Valley Avenue.

The following factors confine the alignment near this site:

- Design requirements: a shift of the corridor to avoid 4(f) resources would require the mainline corridor alignment to shift at least 300 feet either east or west of the proposed alignment.
- Geographical Limitations to the east of Freeman Road: The corridor alignment cannot be shifted to the east due to cliffs adjacent to Freeman Road.
- Tribal trust lands: Shifting the alignment west would significantly impact six tribal trust properties. One tribal trust property also exists to the east of the alignment (Figure 5-11).
- Crossings of Wapato Creek: The current alignment limits crossings of Wapato Creek to one mainline crossing. Shifting the alignment either east or west would increase mainline crossings by at least one.



5.8 Measures to Minimize Harm

5.8.1 Historic Resources

As outlined in the Memorandum of Agreement (see Appendix 1), the residences will be offered for sale, based on the buyer's ability to move the residence to a different location. If the house does not sell within a year, photo-documentation will occur and the residences will be demolished.

5.8.2 Recreational Resources

Lower Hylebos Nature Park

- ✓ Access to the site, including parking, will be coordinated with the City of Fife. Discussions to date have covered improvements to 4th Street East and the possibility of constructing a pedestrian bridge across Hylebos Creek.

Planned Pacific National Soccer Park

The City of Fife was aware of the highway design at the time they proposed and acquired the soccer complex property, and presentations made to the public of the complex design in June 2003 showed the proposed highway project relative to the proposed layout of soccer fields and associated site improvements.

Through meetings with the city, WSDOT prepared an alternative design of the I-5 interchange, which reduced impacts to the planned soccer complex such that 12 fields are possible at this site (Figure 5-13). This meets the minimum requirements for the City of Fife for funding of this facility.

The SR 167 Project has incorporated elements into the design of the project that will benefit the planned Pacific National Soccer Park. The *Analysis of the SR 167 Extension and Riparian Restoration Proposal in the Hylebos Watershed*, November 2004, included stormwater runoff from the soccer complex. The project proposal to relocate Surprise Lake Drain from its current ditched location and create a riparian zone around the relocation area will directly benefit the planned soccer facility. The benefits of this relocation would also include reducing flood impacts to the planned Pacific National Soccer Park.

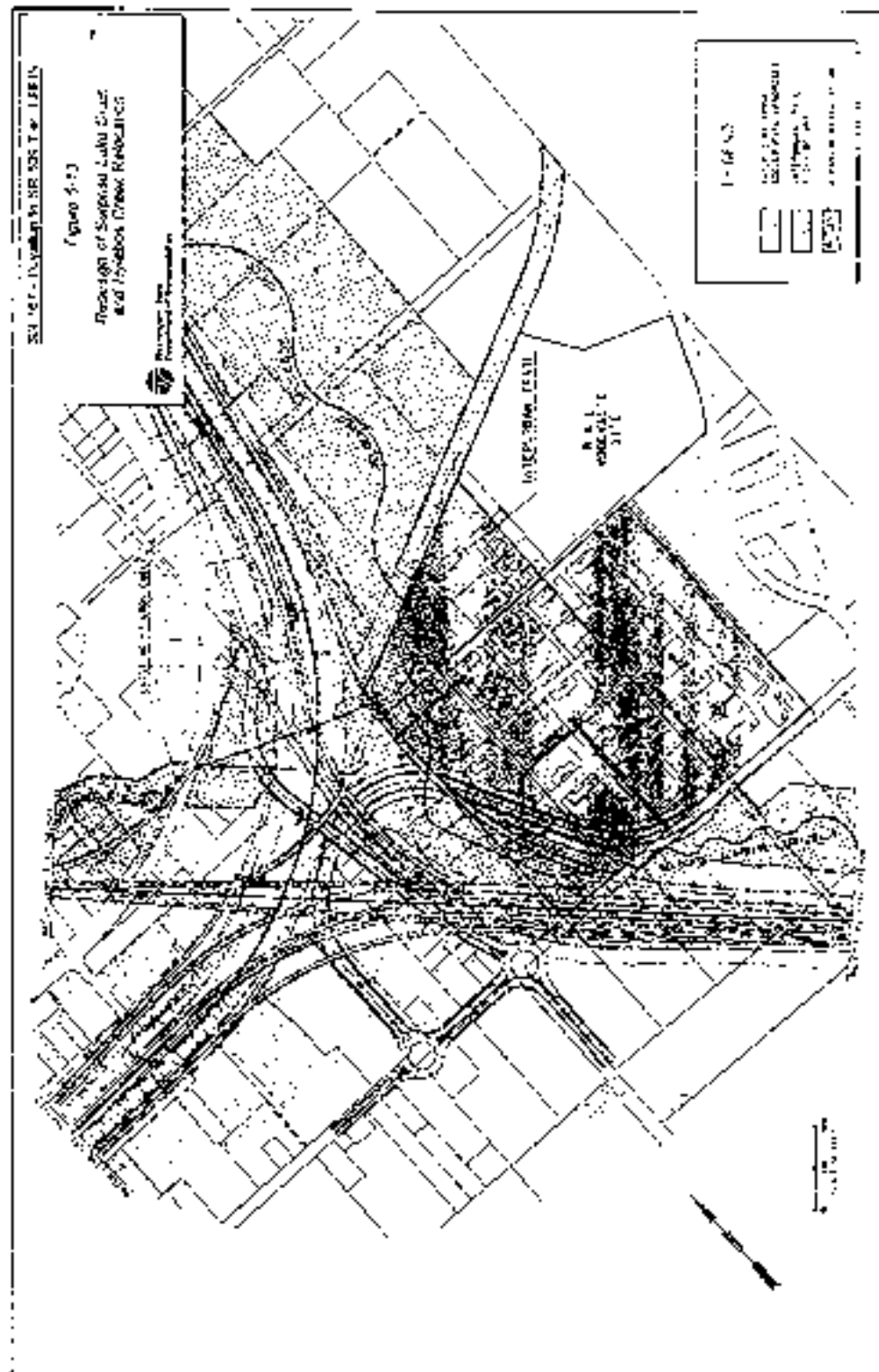
Because funding for construction of SR 167 is not secured at this time, and the City is currently developing the master plan for the soccer complex, WSDOT is committed to continue working with the City of Fife as the plans for both the relocation of Surprise Lake Drain and Hylebos Creek with associated regulatory buffers are refined. Final measures to minimize harm to the soccer complex will be determined once construction funding for SR 167 has been secured.

Mitigation, if necessary, will be provided for any required use of the developed soccer facility.

Interurban Trail

Access to relocated 20th Street East which will provide access to relocated 70th Avenue East through local streets, will be provided as part of the relocation of the southern terminus of Interurban Trail (Figure 5-13). Any additional facilities, such as parking that are developed for the trailhead of the Interurban Trail by the City of Milton, if use is required, will also be addressed. A conversion package will be put together detailing that all practical alternatives to the conversion have been evaluated and rejected; the fair market value of the land to be converted and the replacement land; that the replacement land is of reasonably equivalent recreation or habitat utility and location; and that the replacement land meets eligibility requirements, prior to construction of SR 167.

In addition, the *Analysis of the SR 167 Extension and Riparian Restoration Proposal in the Hylebos Watershed*, October 2004, also determined that flood impacts to the Interurban Trail will be limited to the 100-year storm event with the project's proposal to relocate Hylebos Creek and establish the riparian corridor.



5.9 Coordination

From the beginning of the planning process around 1990, a considerable effort has been made to include a wide assortment of groups and individuals as resources. A Steering Committee (which became a Partners Committee in Tier II) is comprised of representatives from the City of Puyallup, Port of Tacoma, City of Tacoma, City of Edgewood, FHWA, City of Fife, City of Milton, Pierce County, Pierce Transit, Puyallup Tribe, Puget Sound Regional Council, and WSDOT. A citizen's Advisory Committee was made up of citizens from the various jurisdictions who are affected by or interested in the project. Stakeholder interviews were held to solicit the opinions of representatives of the various jurisdictions. Design workshops were held with outside agencies to solicit their ideas about the project. A Value Engineering Study was conducted which looked at 67 options for the design of the I-5/SR 167 interchange. At least four open houses were held to present the project to the public and gather their input. Meetings have also been held with the Tacoma Chamber of Commerce, Edgewood Business Association, Puyallup River Watershed Council, and other businesses, developers, city councils, and local homeowners.

As part of the 404 Merger Agreement process, FHWA and WSDOT regularly met with the National Marine Fisheries Service, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, Washington State Department of Ecology, and Washington State Department of Fish and Wildlife representatives.

Specific to the Section 4(f) resources, FHWA and WSDOT has closely coordinated with the SHPO, the cities of Fife, Puyallup, and Milton, Pierce County, and the Puyallup Tribe. A series of meetings was held in the spring and summer of 2004 with the cities and county for the expressed purpose of exploring joint development for the Fife Soccer Complex and Interurban Trail, providing access to the City of Fife Lower Hylebos Nature Park, and mitigating construction impacts to the Puyallup Riverfront Trail.

update

The Memorandum of Agreement (MOA) prepared to satisfy Section 106 requirements has been developed in cooperation with the SHPO and will be filed with the Advisory Council on Historic Preservation at the conclusion of the consultation. By circulation of this draft Section 4(f) Evaluation, comments will be sought from the U.S. Department of the Interior as required in 23 CFR §771.135(i).

Agency correspondence and the draft MOA comprise Appendix I.

Draft Section 4(f) Evaluation

SR 167 Puyallup to SR 509

Pierce County, WA



August 2005



**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION**

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**Federal Highway Administration
Washington Division**

DRAFT SECTION 4(F) EVALUATION

**SR 167 PUYALLUP TO SR 509
TIER II EIS
PIERCE COUNTY, WASHINGTON**

Submitted Pursuant to 42 U.S.C. 4332(2)(c) and 49 U.S.C. 303

by

**U.S. Department of Transportation
Federal Highway Administration**

Washington State Department of Transportation


August 2005


Date of Approval


For FHWA

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SR 167 Puyallup to SR 509 Tier II EIS

Draft Section 4(f) Evaluation

Introduction

The Washington State Department of Transportation (WSDOT) is planning the completion of the SR 167 freeway between the SR 509 freeway in the City of Tacoma and SR 161 (North Meridian) in north Puyallup. The project would be constructed within Pierce County, Washington, in the cities of Fife, Puyallup, Edgewood, Milton, and Tacoma. The new freeway would replace the existing SR 167 arterial route between the I-5 Bay Street interchange and Puyallup via River Road and North Meridian. The freeway is designed as four lanes, plus inside HOV lanes to be constructed between I-5 and SR 161 at a future date. Figure 1 is a project vicinity map; Figures 2 and 3 identify the 4(f) resources evaluated in this report that are within the proposed corridor.

Section 4(f) Resources

Section 4(f) of the Department of Transportation Act of 1966, codified in Federal law at 49 U.S.C. §303, declares that “[i]t is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

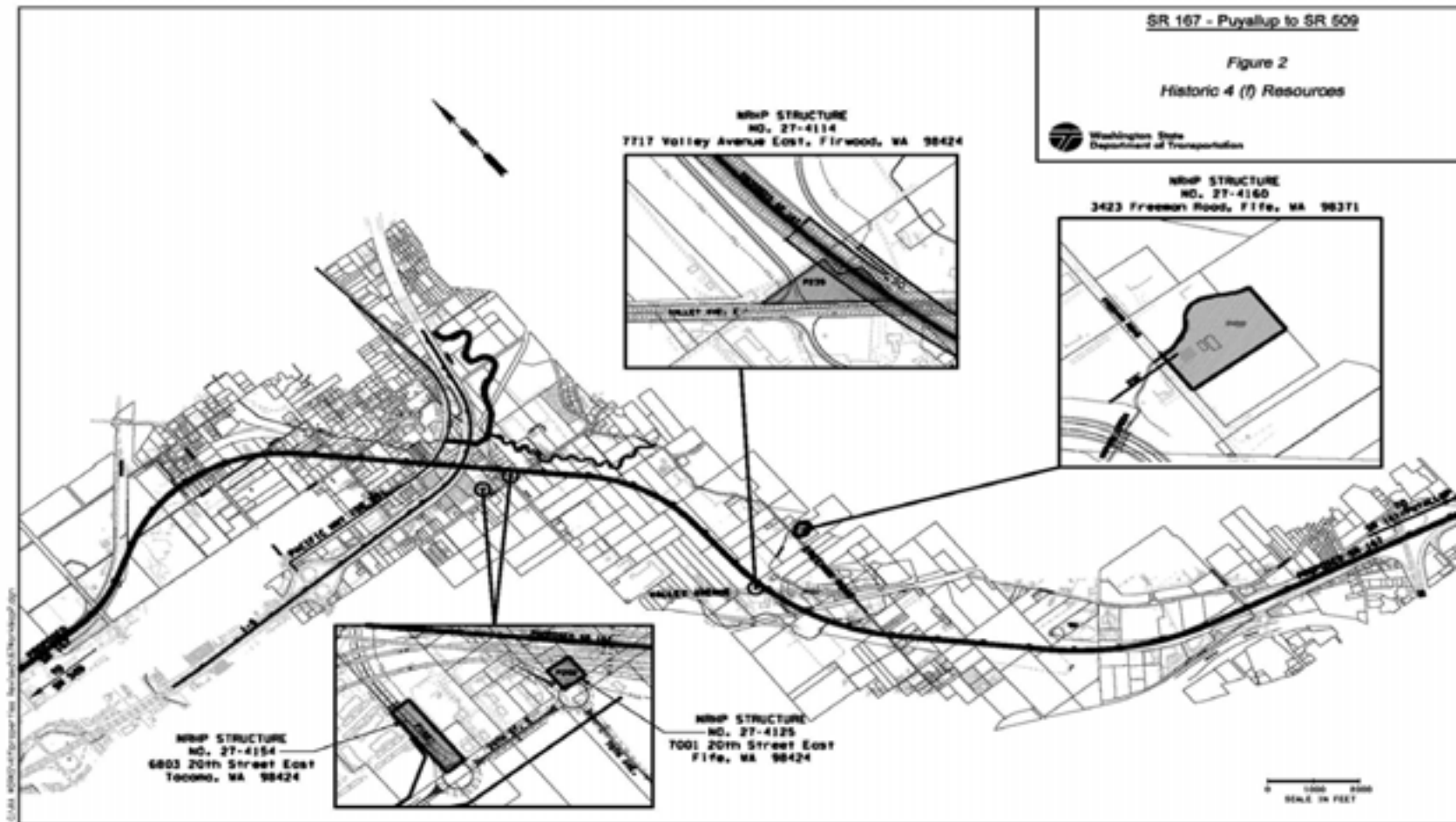
Section 4(f) specifies that “[t]he Secretary [of Transportation] may approve a transportation program or project ... requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if -

- (1) There is no feasible and prudent alternative to using that land; and
- (2) The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.”

“Use” of a Section 4(f) property is usually considered to occur when land from a 4(f) resource is permanently incorporated into a transportation facility or when there is a temporary occupancy of land from a 4(f) resource which results in an adverse effect upon the resource contrary to the Section 4(f) statutory intent to preserve these properties. However, use of a Section 4(f) resource is not limited to property or easement acquisition under the statute.

“Constructive use” under Section 4(f) is defined as project proximity impacts (e.g. noise, access, vibration, aesthetic, ecological intrusion) which are so severe that they “substantially impair” or diminish the activities, features, or attributes that qualify a resource for protection under section 4(f). FHWA has determined that the threshold for constructive use is proximity impacts which substantially impair the function, integrity,







use, access, value or setting of a park, recreation area, waterfowl or wildlife refuge, or historic site.

Supporting information must demonstrate that there are unique problems or unusual factors involved in the use of alternatives that avoid use of 4(f) resources or that the cost, social, economic, and environmental impacts, or community disruption resulting from such alternatives reach extraordinary magnitudes or result in unique problems.

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Departments of Agriculture and Housing and Urban Development in developing transportation projects and programs which use lands protected by Section 4(f).

Section 6(f) Resources

Recreation resources that are acquired or improved with Land and Water Conservation Fund monies are also protected under Section 6(f) of the Land and Water Conservation Fund Act as stated in the FHWA Technical Advisory T6640.8A:

Section 6(f) directs the Department of the Interior (National Park Service) to assure that replacement lands of equal value, location, and usefulness are provided as conditions to approval of land conversions. Therefore, where a Section 6(f) land conversion is proposed for a highway project, replacement land will be necessary. Regardless of the mitigation proposed, the draft and final Section 4(f) evaluations should discuss the results of coordination with the public official having jurisdiction over the Section 4(f) land and document the National Park Service's position on the Section 6(f) land transfer, respectively.

There are no Section 6(f) resources impacted by this project.

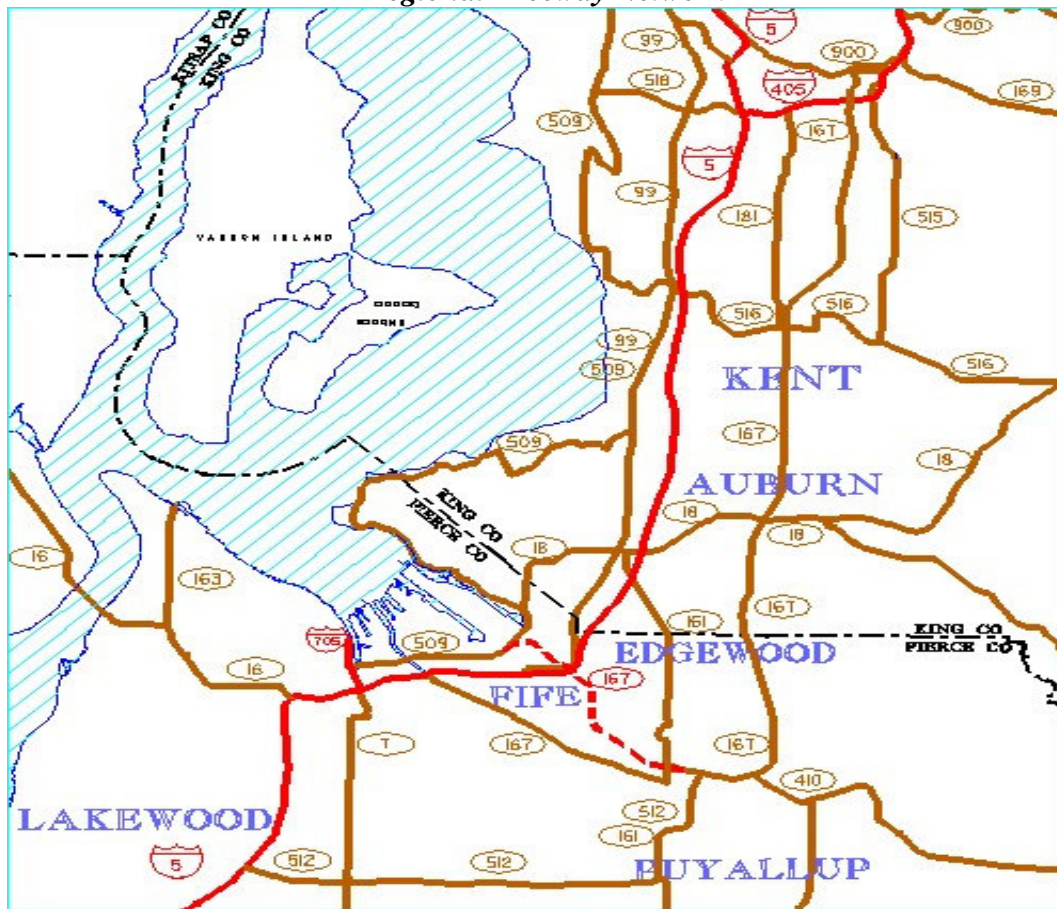
Description of the Proposed Action

Project Background

In the 1950's, a regional highway plan was developed which included SR 167 from Renton to I-5. After issuance of a Design Report and Access Report, work on the project in the Puyallup Valley was halted in the late 1970's because of uncertainty regarding ownership of the Puyallup Tribal lands in the area. In the late 1980's the SR 167 freeway was completed from I-405 in Renton to SR 512 in Puyallup. The tribal ownership issue was resolved in 1989, allowing the SR 167 extension planning to move forward. In 1990 the Washington State Legislature provided funds for the completion of the SR 167 project.

At the beginning of the EIS preparation in 1990, FHWA and WSDOT decided to tier the EIS process into two steps as permitted in the federal guidelines under the National Environmental Policy Act (NEPA). The Tier I EIS would evaluate different corridor options and select a preferred corridor and interchange locations. The Tier II EIS would result in selection of a preferred design and evaluation of interchange options within the

Regional Freeway Network



selected corridor. In both cases, the selection process involved evaluating the environmental consequences of different alternatives and identifying ways to avoid, minimize, or mitigate the environmental impacts.

NEPA regulations at 23 CFR §771.135(o) address the analysis required by Section 4(f) in a tiered EIS:

(1) When the first-tier, broad-scale EIS is prepared, the detailed information necessary to complete the section 4(f) evaluation may not be available at that stage in the development of the action. In such cases, an evaluation should be made on the potential impacts that a proposed action will have on section 4(f) land and whether those impacts could have a bearing on the decision to be made. A preliminary determination may be made at this time as to whether there are feasible and prudent locations or alternatives for the action to avoid the use of section 4(f) land. This preliminary determination shall consider all possible planning to minimize harm to the extent that the level of detail available at the first-tier EIS stage allows. It is recognized that such planning at this stage will normally be limited to ensuring that opportunities to minimize harm at subsequent stages in the development process have not been precluded by decisions made at the first-tier stage. This preliminary determination is then incorporated into the first-tier EIS.

(2) A section 4(f) approval made when additional design details are available will include a determination that: (i) The preliminary section 4(f) determination made pursuant to paragraph (o)(1) of this section is still valid; and (ii) The criteria of paragraph (a)¹ of this section have been met.

Tier I FEIS and ROD

Development of the Tier I Draft EIS began in 1990 with a public review process. The Tier I EIS evaluated three corridors and a no build alternative after initially considering seven preliminary alternative corridor locations. The Tier I Draft EIS was published in June of 1993 and a public hearing was held on July 15, 1993. Subsequently, FHWA required WSDOT to prepare a Major Investment Study (MIS), completed in October 1995, which evaluated the effectiveness of four alternatives. The three corridor alternatives presented in the Tier I EIS avoided then identified 4(f) resources. Alternative 2 had the best mix of features for avoiding, minimizing, and mitigating environmental impacts while still meeting the purpose and need for the project. Therefore, Alternative 2 was selected as the preferred corridor in the Tier I Final EIS and was the basis for the Build Alternative studied in the Tier II Draft EIS. The Tier I Final EIS was published in April 1999 and the Record of Decision was issued by FHWA in June 1999.

Tier II DEIS

The Tier II Environmental Impact Statement (EIS) continues the environmental review process begun in Tier I under both NEPA and the State Environmental Policy Act (SEPA). The Tier II Draft EIS was circulated for public review in February 2003. It included the complete description of the proposed facility and the resulting impacts to cultural resources and the environment, conceptual mitigation plans resulting from those impacts, and identified all necessary environmental permits. Copies of the Tier II Draft EIS are available for review at local libraries or by request from the Washington State Department of Transportation.

One prehistoric site and four Craftsman style homes eligible for the National Register of Historic Places (NRHP) were identified in the Tier II Draft EIS. Subsequent to public review, it was determined that additional analysis of the corridor was necessary. Elements of the project, such as a proposed wetland mitigation site (comprising of approximately 200 acres) and areas for the proposed Park and Ride facilities were researched and one additional historic property, a dairy farm, was identified. On June 15, 2004, the Office of Archeological and Historic Preservation (OAHP) concurred that 64 surveyed resources are not eligible for the NRHP, and five historical resources and 1 archeological site were determined to be eligible for the NRHP. Those historical 4(f) resources are described in this draft Section 4(f) evaluation.

¹ 23 C.F.R. 771.135(a)(1) The Administration may not approve the use of land from a significant publicly owned public park, recreation area, or wildlife and waterfowl refuge, or any significant historic site unless a determination is made that:

(i) There is no feasible and prudent alternative to the use of land from the property; and

(ii) The action includes all possible planning to minimize harm to the property resulting from such use.

(2) Supporting information must demonstrate that there are unique problems or unusual factors involved in the use of alternatives that avoid these properties or that the cost, social, economic, and environmental impacts, or community disruption resulting from such alternatives reach extraordinary magnitudes.

This Draft Section 4(f) Evaluation will be circulated as a separate, stand alone, document. The Tier II Final EIS is currently being prepared, and the Final Section 4(f) Evaluation will be included in it.

Purpose and Need

The purpose of the proposed project is to:

- Improve regional mobility of the transportation system;
- Serve multimodal local and port freight movement and passenger movement between the Port of Tacoma, the new SR 509 freeway, and the I-5 corridor and the Puyallup termini of SR 167, SR 410, and SR 512;
- Reduce congestion and improve safety;
- Provide improved system continuity between I-5 and the SR 167 corridor; and
- Maintain or improve air quality in the corridor to ensure compliance with the current State Implementation Plan (SIP) and all requirements of the Clean Air Act (CAA).

The existing non-freeway segment of SR 167 from I-5 to the Puyallup area is on surface streets and includes a circuitous route through Puyallup, via River Road and North Meridian. The high levels of congestion at intersections and the frequency of intersecting driveways contribute to relatively high accident ratios compared to statewide averages. Traffic projections for the year 2030 indicate the capacity problems at intersections will increase if action to complete the freeway is not taken.

Trucks transporting freight currently travel through the City of Fife via Valley Avenue East, 70th Avenue East, and 54th Avenue East, or climb existing steep grades on SR 18 near I-5. Several intersections along these routes operate at over-capacity conditions during peak traffic, resulting in traffic delays and congestion. The Port of Tacoma projected truck traffic to and from the Port to double from 300,000 to 600,000 trucks per year by the year 2014 (Tier I EIS, 1999). Anticipated problems include more congestion-related delays in freight transport and incompatibility of heavy truck use on residential surface streets creating unsafe conditions.

Alternatives and Options

Introduction

Several corridor alternatives and a no action alternative were evaluated in the Tier I EIS. Corridor 2, which was selected as the preferred alternative, provided a corridor within which a new limited access freeway connecting SR 509 to SR 167 near Puyallup and interchanges at I-5 and Valley Avenue could be configured.

The Tier II EIS proposes two alternatives, a no build and a build alternative.

No Build Alternative

Under the “no build” alternative, the SR 167 freeway will terminate at North Meridian (SR 161), and the non-freeway SR 167 will continue to I-5 via North Meridian and River Road where it will terminate at the Portland Avenue/Bay Street interchange in Tacoma.

The corridor would remain in the present state except for minor improvements and maintenance. Hylebos Creek and Surprise Lake Drain will not be relocated. Riparian restoration will not occur on Hylebos Creek, Surprise Lake Drain, or Wapato Creek. Pierce County and the Cities of Fife, Tacoma, Puyallup, Milton, and Edgewood will continue with their programmed and planned improvements to the local transportation system. SR 167 Tier II DEIS Section 3.14, Transportation, identifies some of the roadway projects that are planned. The types of projects include widening roads, signalizing intersections, adding bicycle and pedestrian facilities, developing park and ride facilities, and improving capacity.

WSDOT will also continue making improvements to its facilities in the study area under the No Build Alternative. These facilities include SR 509, SR 705, SR 99, SR 161, SR 512, and the existing SR 167. The types of improvements include adding HOV lanes, adding collector/distributor lanes, improving on and off ramps, adding transportation demand management systems, and upgrading drainage systems.

Build Alternative

The build alternative consists of a four-lane freeway (four general purpose lanes) with two HOV lanes between I-5 and SR 161. The build alternative includes freeway-to-freeway connections with SR 509, SR 167, and I-5. Also, it includes new local access interchanges at 54th Avenue East and Valley Avenue and completion of the SR 161 interchange. As part of the SR 161 interchange, the existing eastern bridge over the Puyallup River will be replaced and the existing western bridge will be widened. The Build Alternative also results in the relocation of a part of Hylebos Creek and Surprise Lake Drain. The relocated channel designs will reduce flooding and improve fish and wildlife habitat. A riparian restoration area is proposed for existing Hylebos Creek between SR 99 and 8th Avenue, for the relocated Hylebos Creek and Surprise Lake Drain east of I-5, and at Wapato Creek near Freeman Road and Valley Avenue.

A conceptual stormwater treatment plan has been developed for the project.

Mainline Description

The proposed SR 167 begins as a four-lane limited access highway where it connects to the existing SR 509 at the Port of Tacoma Road/SR 509 Interchange. The location of the connection and design features are dictated by the location of SR 509 and the SR 167 alignment as approved in the Tier I EIS. The two-lane southbound SR 167 will directly connect to the southbound lane of SR 509. The two-lane northbound SR 509 will directly connect to the two-lane northbound SR 167. There will be single-lane ramps from southbound SR 167 to SR 509 North Frontage Road and from northbound SR 167 to SR 509 South Frontage Road.

If necessary, as part of the SR 509 connection, one new bridge over Alexander Avenue will be built. This bridge will span Wapato Creek and the South Frontage Road. The existing railroad crossing of SR 509 will be relocated. A new railroad bridge over Wapato Creek will be constructed south of the South Frontage Road. A new structure

(potentially a bridge or 3-sided culvert) will replace the existing 110-feet long by 8-feet diameter open bottom arched culvert over Wapato Creek on North Frontage Road.

The four-lane mainline alignment continues easterly on embankment until it crosses 54th Avenue East in the vicinity of 8th Street East. An interchange providing access to and from the east is proposed at 54th Avenue East. Two interchange options were developed and are discussed below. The mainline continues on an embankment from 54th Avenue East until just past 8th Street East where the mainline separates and northbound lanes ascend on an elevated structure while southbound lanes remain on embankment until after crossing 12th Street East. Local access is maintained as mainline SR 167 crosses 12th Street East on structure.

Both northbound and southbound lanes cross SR 99 on separate elevated structures continuing on to the freeway-to-freeway connection with I-5. The archeological site is in the vicinity of these structures.

Bridges over 54th Avenue East and 12th Street East will be constructed. An existing culvert at the 12th Street East crossing of Hylebos Creek will be replaced with a structure. Riparian restoration along Hylebos Creek will also occur. It will include the removal of residential and commercial buildings near 8th Street East and 62nd Avenue East, the removal of 8th Street East and 62nd Avenue East, east of the new alignment, and the relocation of a drainage ditch. The proposed Lower Hylebos Nature Park, as shown on Figure 3, is in the vicinity of the proposed riparian restoration area and the existing Milgard Restoration Site.

Due to complexity of I-5 interchange and limited solutions for these freeway-to-freeway connections, only one design option could be developed to reasonably meet the needs at this location. The interchange will consist of three elevated levels of roadway structures extending up to 80 feet above ground. The SR 167 mainline would be elevated on structure over 12th Street East, Pacific Highway (SR 99), Interstate 5, proposed relocated 20th Street East and 70th Avenue East. Two historic residences are in the vicinity of the proposed changes to existing 20th Street East and 70th Avenue East.

Hylebos Creek will be relocated as part of mitigation for the fill of Hylebos Creek due to HOV improvements to I-5. The creek will be relocated to the field east of I-5 from its current location adjacent to I-5. Relocation will begin where the creek enters the current I-5 Right Of Way upstream from the proposed interchange and will extend downstream to where it passes underneath SR 99, approximately 4,010 linear feet of channel.

A riparian restoration plan has been developed as part of the project's conceptual stormwater treatment plan that will provide a riparian buffer area around the existing and relocated Hylebos Creek. It will also provide a separated non-motorized path from 54th Street E. to SR 99. The required 200 – 400 foot stream channel and riparian buffer area intersects with and is adjacent to Interurban Trail and the planned Pacific National Soccer Park.

Surprise Lake Drain will also be relocated as part of the I-5 interchange improvements. South of I-5, Surprise Lake Drain will be relocated and restored to a more natural alignment. The existing Surprise Lake Drain channel, which currently bisects the planned Pacific National Soccer Park, will be moved to agricultural fields east of the new SR 167 mainline. See Figure 3.

Riparian restoration, part of the project's conceptual stormwater treatment plan, is proposed along Wapato Creek at Valley Avenue Interchange. Restoration activities include riparian plantings, fill removal, impervious surface removal from the floodplain, and the potential removal of six undersized crossing structures. A trail, the planned Fife Landing South Trail, is currently proposed to follow Wapato Creek in the vicinity of the project's planned restoration activities.

The mainline continues to the southeast parallel with Valley Avenue with two general purpose lanes in each direction and one HOV lane in each direction. Washington State Patrol truck weigh station facilities are proposed for each direction of travel east of the Valley Avenue interchange. The mainline would pass to the south of the Puyallup Recreation Center. WSDOT is proposing another cross connection over SR 167 with the preferred Urban interchange option for SR 161. Three design options have been developed for consideration at this interchange. The mainline continues towards the terminus at the existing SR 161/SR 167 interchange.

There are two existing bridges over the Puyallup River that carry SR 161 traffic. The southbound traffic travels over a concrete structure (eastern bridge) constructed in 1971. The northbound traffic travels over a steel structure (western bridge) constructed in 1951. The concrete bridge has a pier within the ordinary high watermark of the river while the steel bridge spans the river. The steel bridge is approximately 3 feet lower than the concrete bridge. Neither bridge meets current design standards.

As part of the SR 161/SR 167 interchange improvements, the existing steel bridge will be removed and replaced with a bridge that may span the Puyallup River. The project currently estimates a maximum of four piers for the new bridge will be located within the ordinary high water mark of the river. The concrete bridge will be widened approximately seven feet to provide shoulders and a bike lane. The Riverfront Trail currently passes under the steel and concrete Puyallup River bridges.

Interchange Descriptions

There are three interchanges with multiple design options under consideration. They are at 54th Avenue East, Valley Avenue, and SR 161 (North Meridian).

54th Avenue Partial Interchange

There are two options for the partial interchange at this location. In both options, the ramps are single lane and provide only southbound off and northbound on access to SR 167. Connections will be provided for bicycle route continuity. There are no 4(f) resources in the vicinity of this proposed interchange.

Valley Avenue Interchange

Three design options were developed for this interchange location. For each, the SR 167 mainline is elevated over Valley Avenue, Union Pacific Railroad, Wapato Creek, and Freeman Road. Under all three options, WSDOT will widen Valley Avenue from two lanes to five lanes from the northbound off ramp to the intersection of Freeman Road East. There are two historic residences in the vicinity of this proposed interchange.

SR 161 / SR 167 Interchange

An existing connection here provides the southern terminus for the freeway segment of SR 167 between Puyallup and Renton. With the proposed SR 167, this connection will become a full interchange. Three design options have been developed. In each design option, the SR 167 mainline will be elevated over SR 161 (North Meridian). In all three options, the existing steel bridge over the Puyallup River (northbound SR 161) will be replaced. The existing concrete bridge (southbound SR 161) will be widened. There are no 4(f) resources in the vicinity of this proposed interchange.

Description of Section 4(f) Resources

Section 4(f) resources include historic sites and publicly owned parks, recreation areas, and wildlife and waterfowl refuges. The proposed action will not require the use of any wildlife and waterfowl refuges or existing public parks.

Historic Resources

Historic resources are subject to protection under Section 4(f) regulations if they are on or eligible for listing on the NRHP. Determination of eligibility is made by the Federal Highway Administration (FHWA). FHWA has delegated this authority to the WSDOT. WSDOT made the determinations of eligibility based on recommendations in the Cultural Resources report prepared to satisfy Section 106 requirements (summarized in the EIS). There are four National Register Criteria for Evaluation that an eligibility determination is based on: association with significant events (Criterion A); association with significant people (Criterion B); possession of significant design or construction (Criterion C); and association with information important in prehistory or history (Criterion D).

Section 4(f) applies to all archaeological sites on or eligible for inclusion on the National Register and which warrant preservation in place (including those discovered during construction). Section 4(f) does not apply if FHWA, after consultation with the State Historic Preservation Officer (SHPO) and the ACHP, determines that the archaeological resource is important chiefly because of what can be learned by data recovery (even if it is agreed not to recover the resource) and has minimal value for preservation in place.

The Tier II Draft EIS (pages 3-314, 3-315) described one archaeological site along SR 99 in the vicinity of the I-5 interchange portion of the project as potentially eligible for the

NRHP. It also described 56 historic properties that were inventoried, with 5 appearing eligible for the NRHP. At the time the Draft EIS was published in February 2003, eligibility had not yet been determined by the State Historic Preservation Officer (SHPO). Subsequently more sites were surveyed bringing the total to 70, with one additional potentially eligible for the NRHP. SHPO concurred with the agency eligibility determinations, see Appendix A.

There is potential for additional archeological sites to be discovered during construction. In this case, where preservation of the resource in place is warranted the Section 4(f) process will be expedited. Also, the evaluation of feasible and prudent alternatives will take account of the level of investment already made. The review process, including the consultation with other agencies should be shortened, as appropriate. An October 19, 1980, memorandum with the Heritage Conservation and Recreation Service (now National Park Service) provides emergency procedures for unanticipated cultural resources discovered during construction.

On June 15, 2004, the SHPO concurred that the following resources (Table 1) were eligible for listing in the NRHP, therefore making them potentially subject to protection under Section 4(f) regulations:

Table 1 – Historic Resources Eligible for the NRHP

OAHP ¹ Number	Parcel Number ²	Address	Description
45PI488	(not disclosed)	Along SR 99	Archaeological site
27-4154	P168	6803 20 th St. E.	Residence
27-4125	P202	7001 20 th St. E.	Residence
27-4114	P239	7717 Valley Ave. E.	Residence
27-4160	P490	3423 Freeman Road	Residence
Fife-A-1	(Baggenstos Farm)	N. Levee Rd.	Farmstead

¹Office of Archaeology and Historic Preservation

²Assigned by WSDOT

Site 45PI488 - This archaeological site is on a privately owned vacant lot located along SR 99. Based on the results of shovel testing performed in October 2000 and January 2001, the site appears to be confined to the southeast portion of the parcel. Limited testing produced two fragments of a formed tool, a charcoal sample, and lithic scatter. The site is considered significant under Criterion D, for it is likely to yield information important to Puyallup River Valley prehistory. It was determined, after consultation with SHPO, that this site has minimal value for preservation in place. Therefore, the archaeological site is not subject to protection under Section 4(f) regulations. This site is not shown on the vicinity map or a site plan in order to protect its integrity.

Site 27-4154 – This private residence is located at 6803 20th Street East. Built around 1940, this gable-front bungalow cottage is in excellent condition and retains its architectural integrity. In addition, its gardens and overall setting further enhance its Craftsman aesthetic. It was determined eligible for the NRHP under Criterion C. See Figures 2 and 4.



Site 27-4125 – This private residence is located at 7001 20th Street E. It was constructed around 1930, and is a one and one-half story bungalow with a gull-wing dormer and a shed-roof dormer. It retains excellent architectural integrity and is in good to fair physical condition. It was determined eligible for the NRHP under Criterion C. See Figures 2 and 4.



Site 27-4114 – Another private residence, this resource is located at 7717 Valley Avenue E. Built around 1900, this one and one half story bungalow with gull-wing style gable roof has excellent structural integrity, but is in only fair physical condition. It was determined eligible for the NRHP under Criterion C. See Figures 2 and 5.

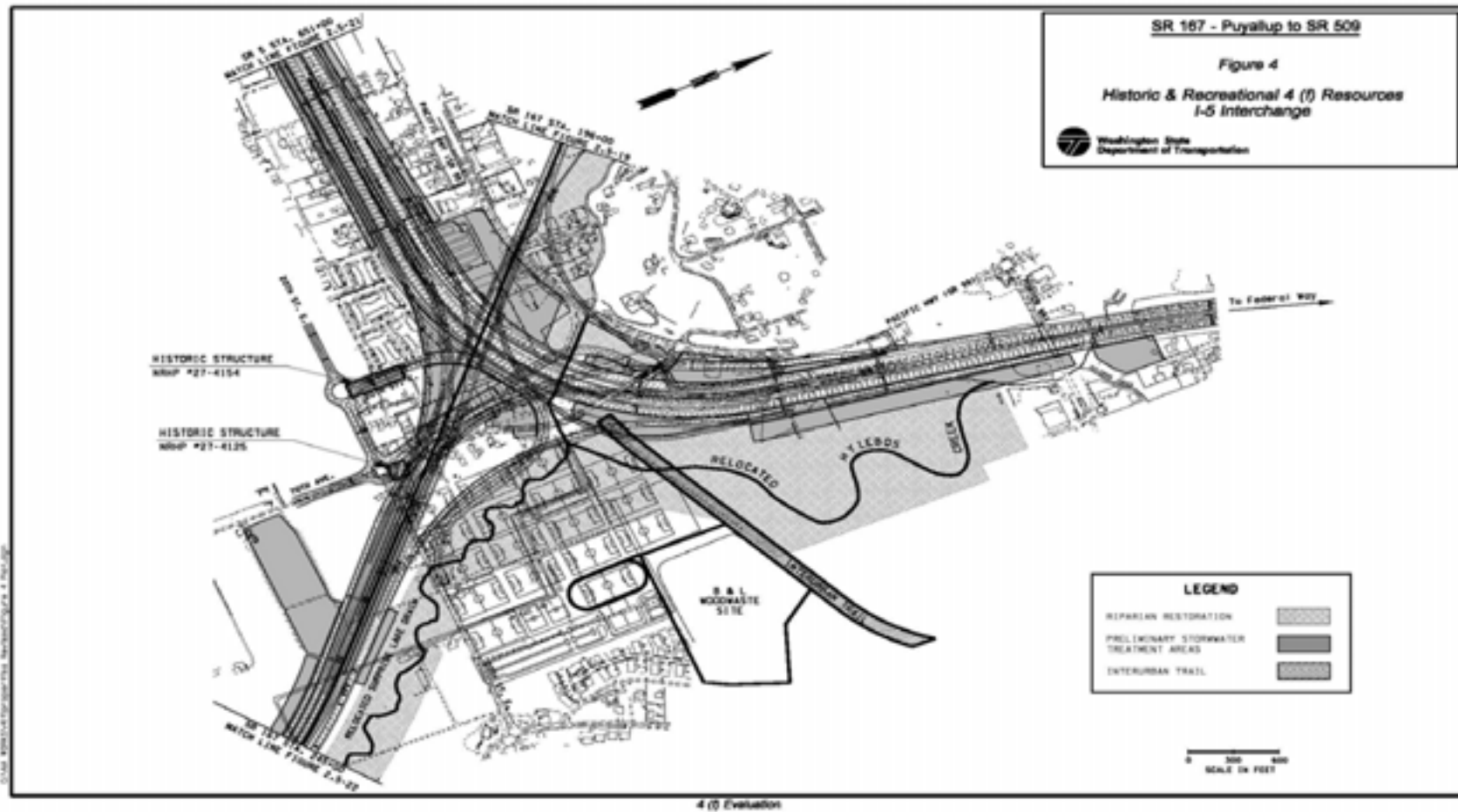


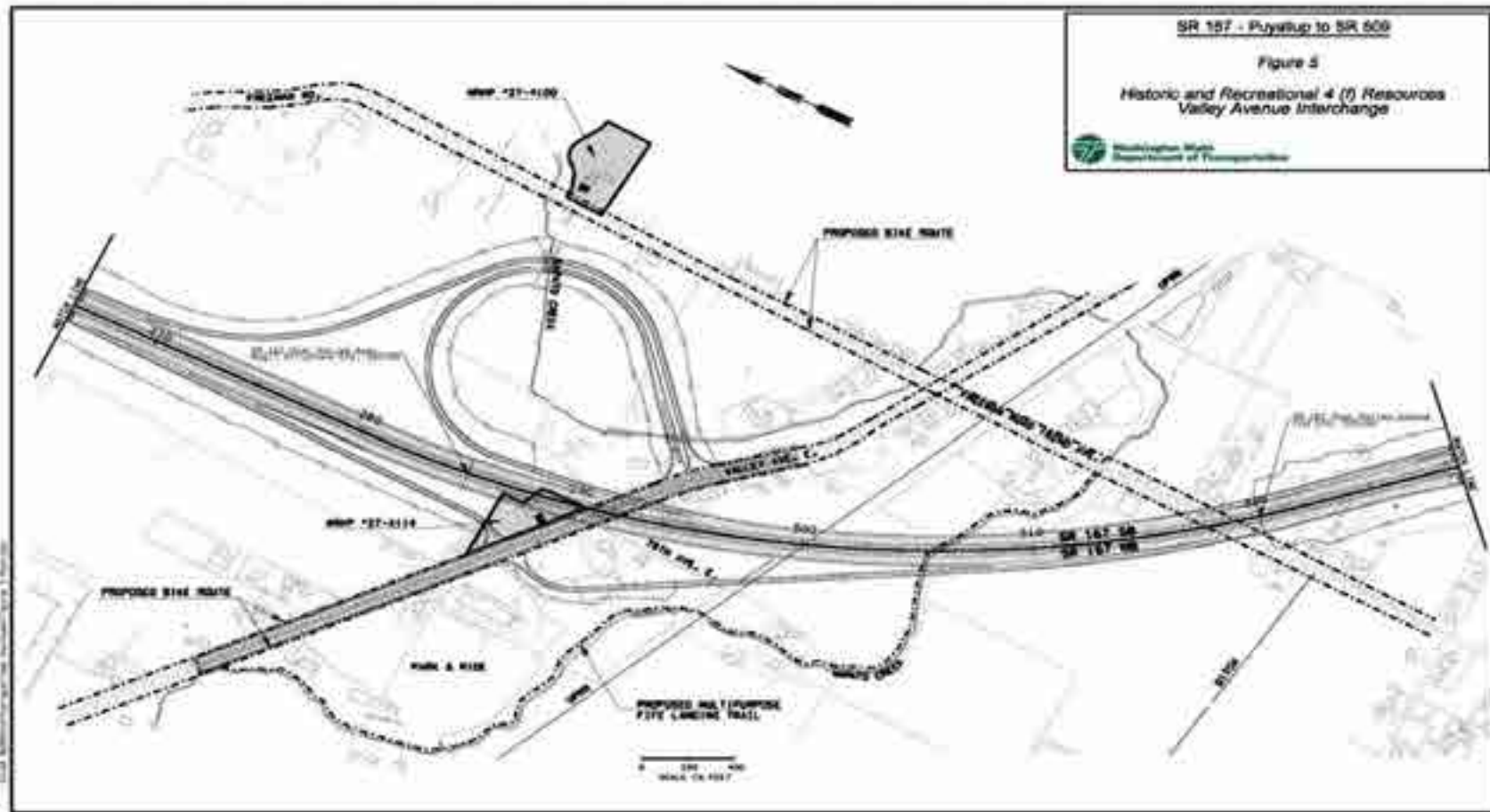
Site 27-4160 – Built in 1902, this Craftsman style two-story private residence is located at 3423 Freeman Road. It has excellent exterior architectural integrity and is in excellent physical condition. It was determined eligible for the NRHP under Criterion C. See Figures 2 and 5.



Site Fife-A-1 – This property, known as the Baggenstos Farm, is a complex of buildings located at the proposed wetland mitigation site on N. Levee Rd. The buildings, dating to around 1920, include a farmhouse, vehicle garages, and a large barn that adjoins a dairy barn, loafing shed, and milk house. All buildings other than the garages are presently abandoned. The farmhouse retains good integrity of materials and appearance, but has lost its former association with dairy farming. The other buildings have also lost their historic association and function, and exhibit poor integrity. However, this group of buildings still retains a visibly recognizable association with early farming. It was determined eligible for the NRHP under Criterion A.



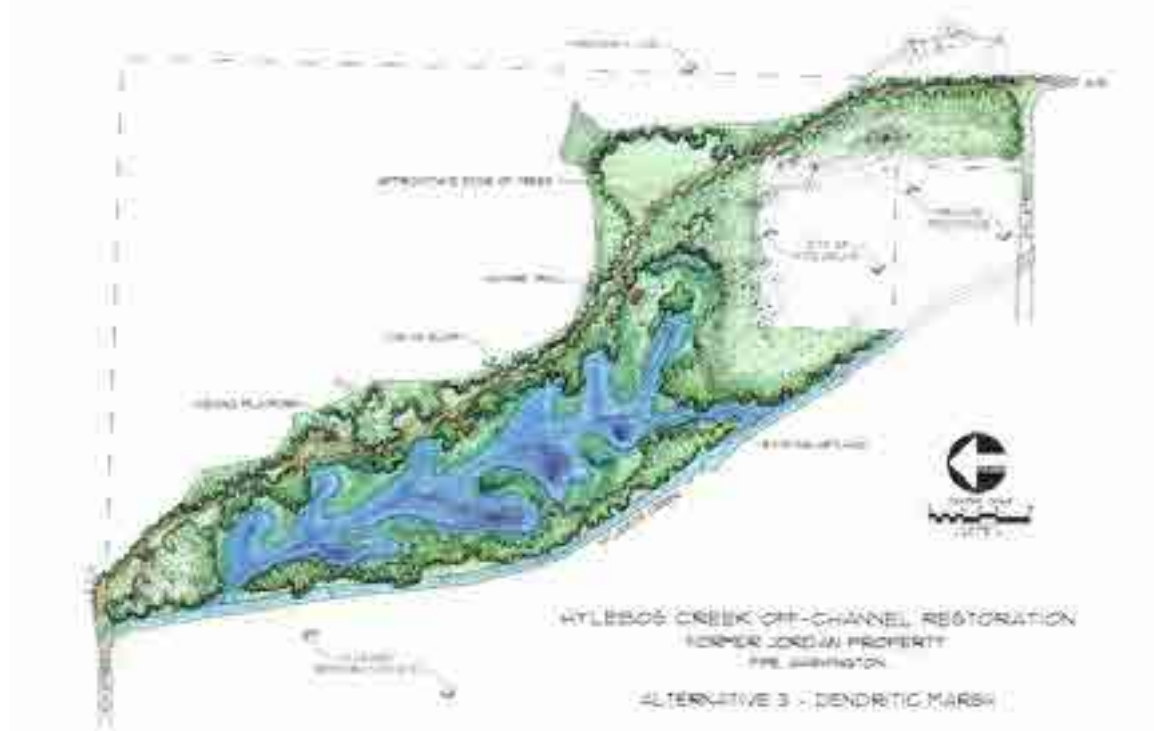




Recreational Resources

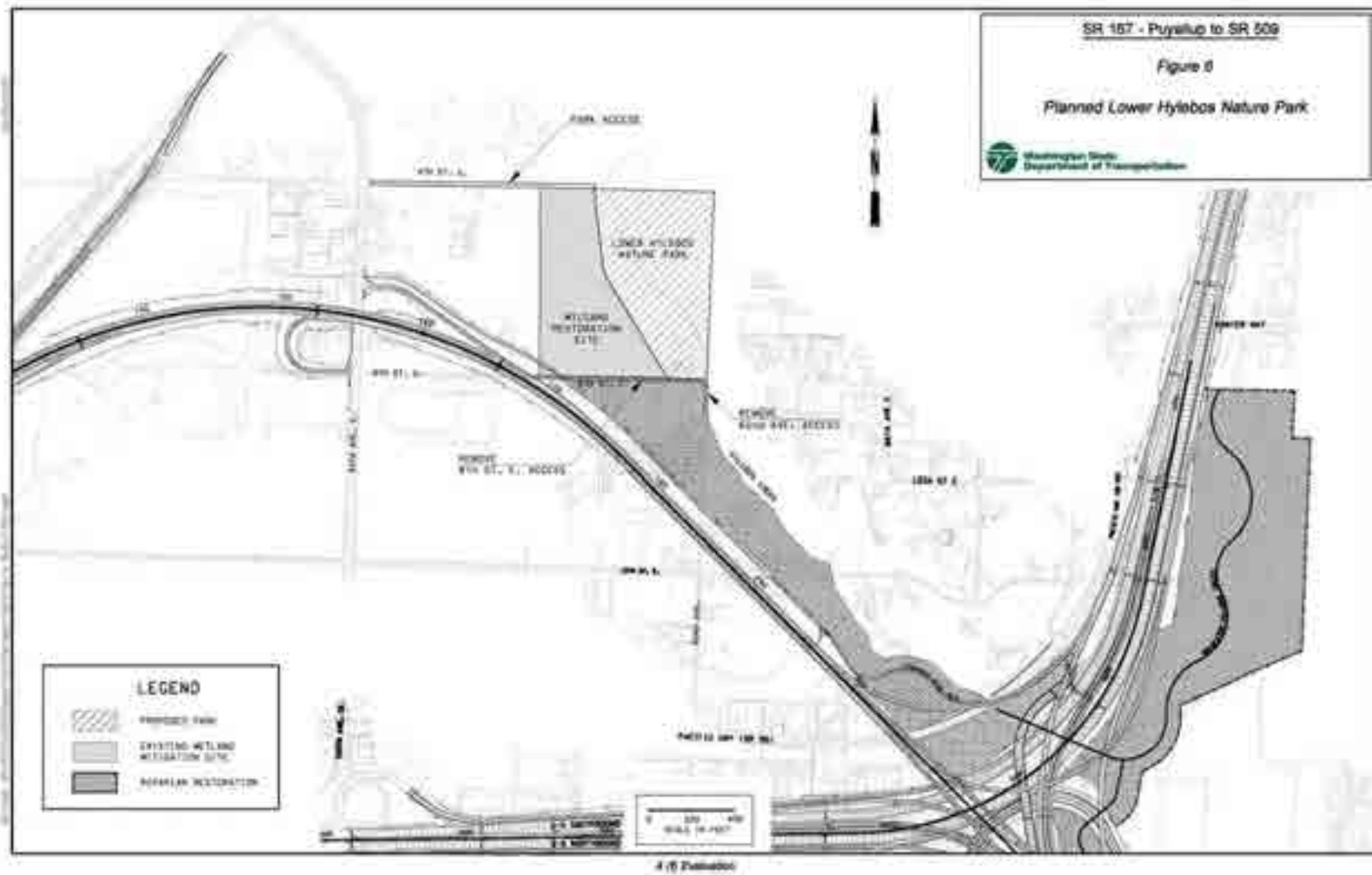
The Tier II Draft EIS described the existing and proposed parks and recreation facilities in the study area. Since publication of the DEIS the following resources have been proposed or identified within the project corridor.

Lower Hylebos Nature Park – The City of Fife, together with the Commencement Bay Natural Resources Trustees, Pierce County, and the National Oceanic and Atmospheric Administration (NOAA), have a proposal to design and construct a restoration project adjacent to a tidally influenced reach of Hylebos Creek. The City of Fife owns the site and development of the site is limited to the usable 7 acres of a 15.3 acre parcel, the remainder being steep cliffs. The proposed restoration project will create off-channel habitat for juvenile salmonids and native plant vegetation. The 4(f) recreational resource is the nature trail, including viewing platforms and interpretive signs, that will be added to provide public access and educational opportunities, and, when completed, will be part of the City of Fife's park system.



NOAA is the lead agency for construction at this site, projected to begin in the summer of 2005. The City of Fife will operate and maintain the site after completion of construction. This year's construction program will include parking at the south entrance, near the intersection of 62nd Avenue and 8th Street East. See Figure 6.

Planned Pacific National Soccer Complex - As early as the year 2000, the City of Fife developed plans for a city owned and run soccer facility. This planned facility would include, at a minimum, 12 lighted soccer fields, training facilities, a specially surfaced field for players with mental or physical disabilities, a headquarters for the Washington State Youth Soccer Association, and 500 – 600 parking spaces. Several locations were



analyzed, including a site off North Levee Road and the preferred location on the east side of I-5, just north of 20th Street East and east of 70th Avenue. The development of this complex is a joint project of Fife, the Washington Youth Soccer Association, and the Tacoma-Pierce County Junior Soccer Association. The city currently owns the preferred site, and the associations will build the facilities. Pierce County has partnered with both the City of Fife and the City of Milton to provide parking for both this planned facility and the planned improvements to the Interurban Trail, described below. Funding for this project is contingent on providing the minimum of 12 fields.

The city initially purchased a 41-acre site off North Levee Road in March of 2001. The North Levee Road site is outside of the project footprint. Further analysis of the site determined that the original land was too costly to develop and too remote from the city commercial district and I-5. The estimated cost of utility extension and access improvements was \$8 million. The city is currently evaluating offers for the sale of this property, and the property was analyzed in the *SR 167 Conceptual Mitigation Plan*, June 2004, as an alternative wetland mitigation site.

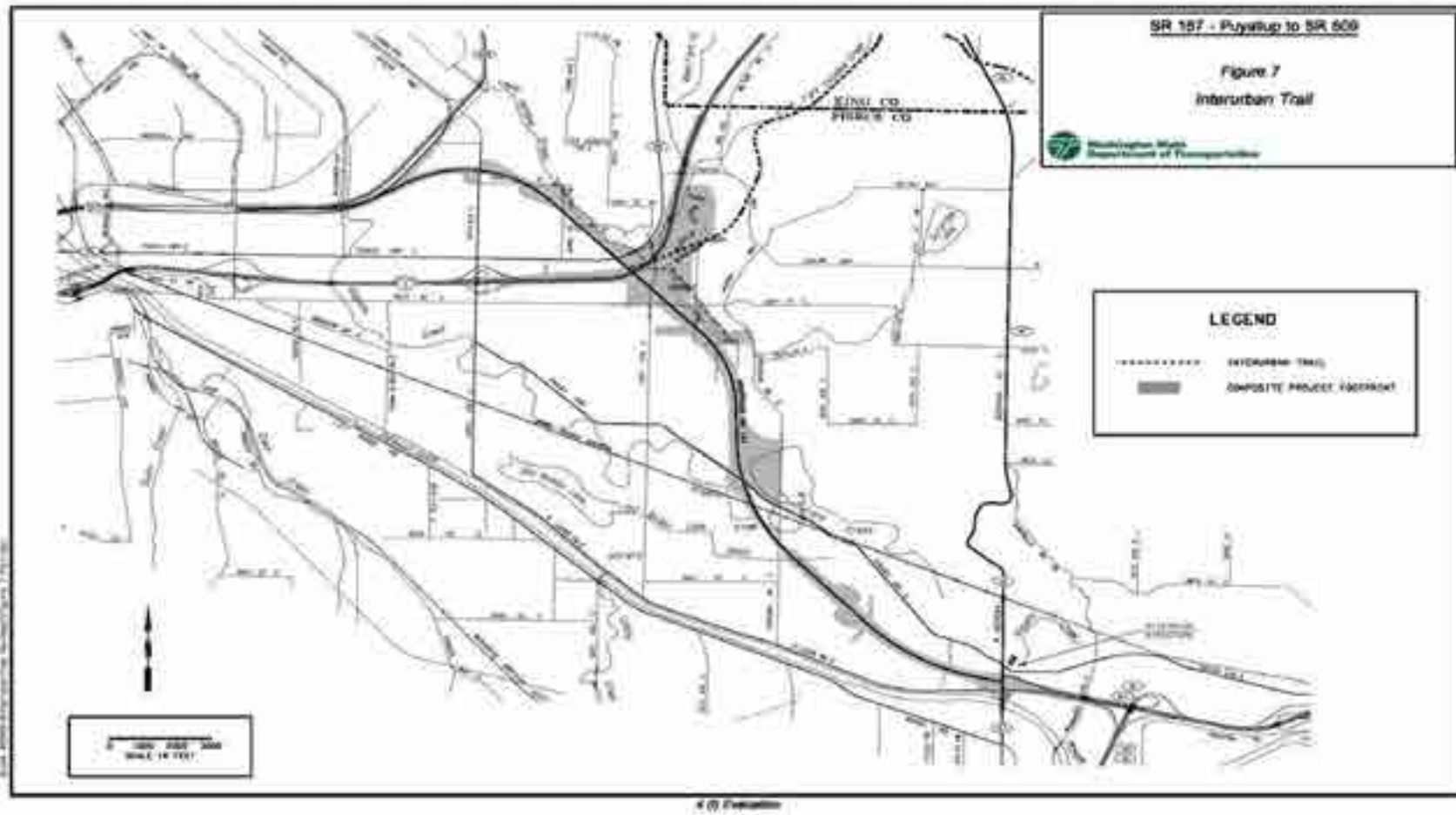
The preferred 54-acre site adjacent to I-5 was identified by the city in late 2002. Initial plans were presented to the public in June 2003 and showed a combination of turf and grass soccer fields on 3 levels along with associated buildings and parking, Figure 4. Located next to flood-prone Hylebos Creek, the site will be tiered to accommodate flood control. The lower level would flood often during the winter during off-season. The second level would also flood but not as frequently, and the third level, turf fields, would remain dry. The proponents have purchased the property, hired a design firm, and are hoping to begin phased construction as early as 2006.

As a planned facility there is no current usage, but the City of Fife has estimated as high as 50,000 families per month will access the site once operational and open to the public. The soccer complex site is also adjacent to the southern terminus of the planned Interurban Trail, described below.

Planned Interurban Trail – The City of Milton purchased the abandoned Puget Sound Electric railbed as a multi-use bicycle / pedestrian trail route, and has hired a consultant to develop it. They hope to begin construction on a 10-12 foot paved path with 2 foot gravel shoulders within the next year. This 33 acre trail begins by I-5 north of 20th St. E. and east of 70th Ave, adjacent to the City of Fife’s planned Pacific National Soccer complex, and proceeds northeasterly (see Figures 4 and 7) for approximately 3 miles.



As a planned facility, there is no estimate of the number of users per year. Construction would be in 3 phases, potentially starting near the proposed I-5 interchange for the SR 167 project.



This property will be improved using Washington Wildlife and Recreation Program Funding administered under the Washington State Office of the Interagency Committee (IAC)². By IAC policy, should a sponsor (the City of Milton) convert any portion of the project to a non-recreational use, that conversion must be approved by IAC. The conversion policy can be found in IAC Manual 7 Funded Projects, page 10, March 17, 2004.

If a portion of the trail will be converted, the City would be required to replace what was converted at their own cost with a replacement of equivalent recreational value, location, and use. Depending on the size of the conversion, it may require IAC Board approval. The City would be required to go through the conversion process as outlined in the manual listed above. To briefly summarize the process, all alternatives to the conversion must be considered. There must be justification to support the proposed replacement, as well as site plans for the conversion site and proposed replacement site.

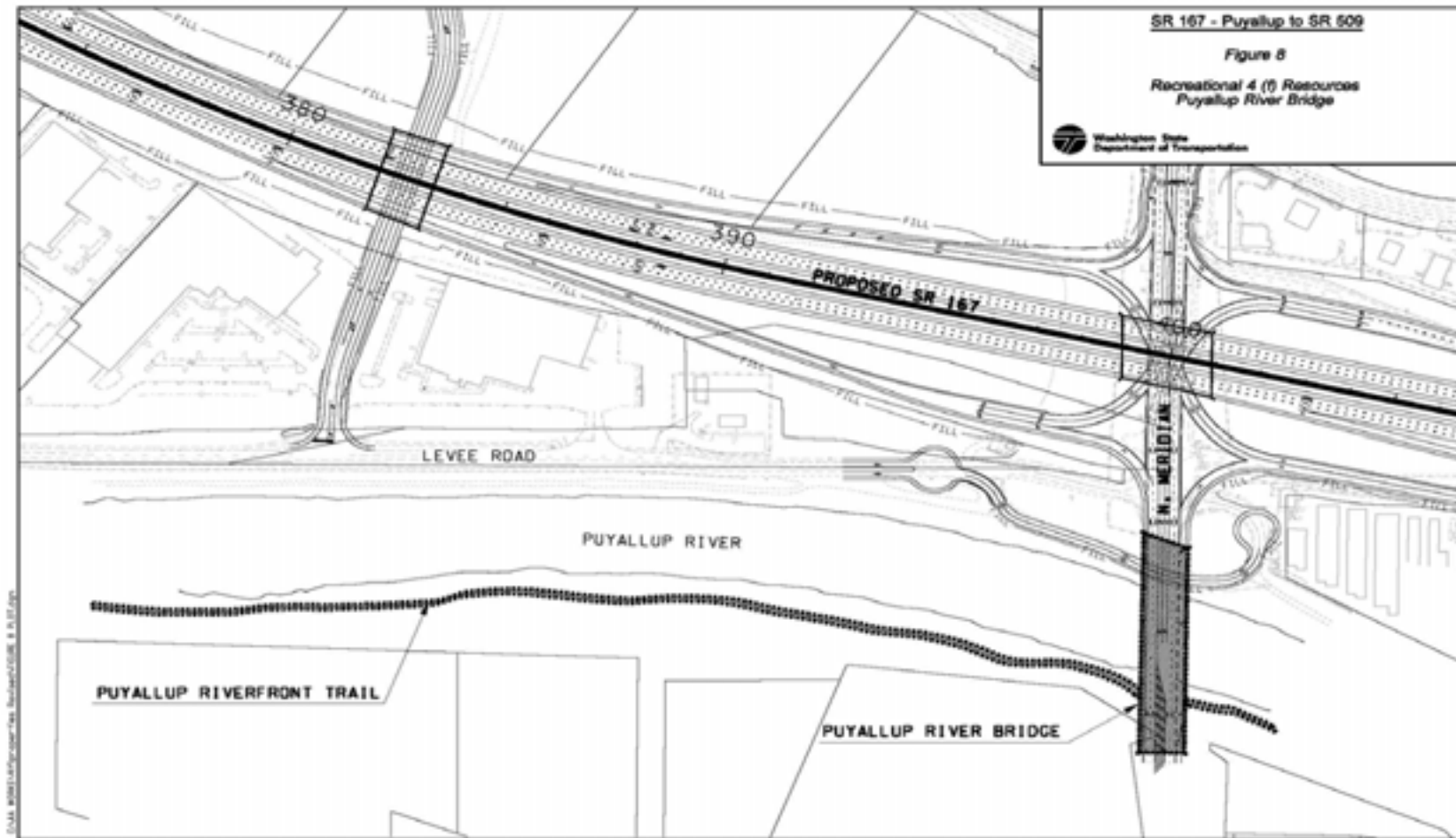
Riverfront Trail – This existing City of Puyallup multi-use trail extends along the south levee of the Puyallup River from the Milwaukee Avenue Bridge westward to the vicinity of 4th St. NW. It is 10-12 feet wide, paved, and passes beneath the two SR 167 Puyallup River bridges on its own structure. Current usage is estimated at 20 persons per day. See Figure 8.



Planned North Levee Trail – This planned City of Fife trail is shown in the Comprehensive Parks, Recreation, and Open Space Plan as located on North Levee Road, extending from Freeman Road northwest to the I-5 bridge over the Puyallup River with a connection to 20th Street. Trails on transportation rights-of-way are not usually subject to Section 4(f) protection, but as a planned facility some parts of the trail may extend beyond the public street system. Portions of the trail that are proposed along Wapato Creek could be subject to Section 4(f) protection. See Figure 3.

Puyallup Recreation Center – The recreation center consists of two adjacent facilities, a 25,000 square foot indoor recreation center, and a 16-acre park with 3 multi-use softball/baseball fields and an overlying soccer field. Also included are a children's playground and passive area, and a walking/jogging trail. See Figure 3.

² The Office of the Interagency Committee is a state agency that serves the *Interagency Committee for Outdoor Recreation (IAC)* and the *Salmon Recovery Funding Board (SRFB)*. The agency's staff, under the guidance of a director appointed by the Governor, implement policies and programs established by the two Boards, the Legislature, and the Governor.



Other Park, Recreational Facilities, Wildlife Refuges, and Historic Properties Evaluated Relative to the Requirements of Section 4(f)

The purpose of this discussion is to address Section 4(f) requirements relative to other park, recreation facilities, wildlife refuges, and historic properties in the project vicinity. As indicated below, the build alternative does not result in a use of these other Section 4(f) resources. The discussion of each resource either documents (1) why the resource is not protected by the provisions of Section 4(f) or (2) if it is protected by Section 4(f), why the build alternative does not cause a Section 4(f) use by (a) permanently incorporating land into the project, (b) temporarily occupying land that is adverse to the preservationist purposes of Section 4(f), or (c) constructively using land from the resource.

As noted above there are no wildlife and waterfowl refuges impacted by this project. Some 70 historic properties within the area of potential effect (APE) were surveyed, with only those listed above being found eligible for the NRHP and therefore subject to Section 4(f) protection.

The following additional existing or planned recreation facilities are within the general vicinity of the project:

- Wapato Creek Trail
- Wapato Pointe PUD Trail
- Autumn Grove Trail
- Fife Landing Trail
- Fife Landing Trail Addition
- Fife Landing South Trail

Fife Landing South Trail – This trail extension, shown in the City of Fife’s Comprehensive Plan 2002 Update, would follow Wapato Creek, crossing proposed SR 167 south of Valley Avenue and west of Freeman Road (see Figure 5). As a planned facility, no estimate of the number of users is available. The Puyallup Tribe currently owns the land within the planned trail. Currently, no public agency owns the proposed trail corridor needed for right-of-way. Therefore, the Planned Fife Landing South Trail is not a 4(f) facility.

The remaining five existing and proposed trails listed above are all outside of the impact area of the project. Therefore, the provisions of Section 4(f) are not triggered.

Description of Use

Historic Resources

Of the five resources eligible for protection under Section 4(f), the project will require use of three historic residences.

Table 2 – 4(f) Use - Historic Resources Eligible for the NRHP

Parcel Number¹	OAHP² Number	Address	Section 4(f)Use	Description
P168	27-4154	6803 20th St. E.	Yes – demolition	Residence
P202	27-4125	7001 20th St. E.	Yes – demolition	Residence
P239	27-4114	7717 Valley Ave. E.	Yes – demolition	Residence
P490	27-4160	3423 Freeman Road	No	Residence
(Baggenstos Farm)	Fife-A-1	N. Levee Rd.	No	Farmstead

¹Assigned by WSDOT²Office of Archaeology and Historic Preservation

Site 27-4154 – Under the preferred build alternative, there would be a use of this historic residence. The property is directly within the proposed relocation of 20th Street East and construction of a roundabout. It is proposed that the structure be offered for sale to a buyer willing to relocate the structure. The structure would be demolished if no qualified buyer was identified in one year.

Site 27-4125 – Under the preferred build alternative, there would be a use of this historic residence. The property is within the proposed I-5 interchange structures. It would also be adversely affected by the proposed relocation of 70th Avenue with associated roundabout at the corner of 70th Avenue and 20th Street East. It is proposed that the structure be offered for sale to a buyer willing to relocate the structure. The structure would be demolished if no qualified buyer was identified in one year.

Site 27-4114 – Under the preferred build alternative, there would be a use of this historic residence. Proposed widening of Valley Avenue East will adversely affect the property. The residence would be demolished by the proposed realignment of Valley Avenue with Valley Avenue Realignment interchange option. The Freeman Road and Valley Avenue (preferred) interchange options would require use of the property as well. The building would be under the proposed structure for mainline SR 167 and on the inside of the NB SR 167 off-ramp, limiting access and increasing noise impacts to the residence.

Under the preferred Valley Avenue interchange option, the structure be offered for sale to a buyer willing to relocate the structure. The structure would be demolished if no qualified buyer was identified in one year.

Site 27-4160 – Under the preferred build alternative, no use, nor any constructive use, is expected of this historic residence. Although interchange options include widening of Freeman Road on the front (west) side of the site, the project can be designed to avoid any property acquisition.

Noise impacts were assessed in the Tier II DEIS and noise modeling near the site indicates noise levels will remain under 63-dBA under future buildout conditions with the proposed project. A noise wall for this area was determined to be not feasible and not

reasonable because it is not possible to achieve a 7-dBA reduction. Visual impacts will be avoided, as the property front on Freeman Road currently has an extensive hedge system. In addition, the project proposes to install riparian plantings in the property directly across from the site on Freeman Road. These plantings of a riparian forest combined with an interchange off-ramp that is not elevated, will reduce the visual impacts from the project.

Site Fife-A-1 (Baggenstos Farm) – Under the preferred build alternative, there would not be a use of this historic farm. WSDOT will design the compensatory wetland mitigation site to avoid any identified 4(f) resource.

Recreational Resources

Of the seven recreational resources eligible for 4(f) protection, the project will require use of a planned facility and a multi-use trail.

Table 3 – Section 4(f) Use - Recreational Resources Eligible for 4(f) Protection

Recreational Resource	Location	Section 4(f) Use	Description
Planned Lower Hylebos Nature Park (Trail)	Adjacent to Milgard Restoration Site	No	Multi-use trail
Planned Pacific National Soccer Park	I-5 Interchange	Yes – land acquisition	Soccer facility
Interurban Trail	I-5 Interchange	Yes – land acquisition	Multi-use trail
Riverfront Trail	Puyallup River Bridge	No	Multi-use trail
Planned North Levee Trail	N. Levee Rd.	No	Multi-use trail
Puyallup Recreation Center	WSP Weigh Stations	No	Community recreation center

Planned Lower Hylebos Nature Park (Trail) – Under the preferred build alternative, access to this proposed trail will be limited by the removal of 8th Street East and 62nd Avenue East. There is no required use of this proposed trail. FHWA and WSDOT met with the City of Fife on May 8, 2003 and June 2, 2004 to discuss access issues for this proposed restoration project. The City of Fife has stated that a change in the location of proposed parking (at 8th Street East) would require an amendment to the city's Shoreline Permit although an alternative access point to this site, 4th Street East, exists. In addition, NOAA and its partners (the U.S. Army Corps of Engineers) do not currently support changing the location of access to the site. Access to this proposed trail exists through 4th Street East, therefore will be no constructive use of this 4(f) facility. FHWA and WSDOT will continue to work closely with the City to address parking and access needs as project design is finalized.

Planned Pacific National Soccer Complex - Based on the project footprint of the proposed I-5 Interchange, relocation of 20th Street East, and the relocations of Hylebos Creek and Surprise Lake Drain with associated buffers as shown in the February 2003 Tier II DEIS and a preliminary design drawing from the City of Fife depicting a potential 18 soccer fields at the complex site, the project would require use of 12 of the 18 proposed soccer fields, see Figure 4. Through minimization measures and coordination with the City of Fife, use of these soccer fields have been limited to 6 of the currently designed 18 soccer fields, see Figure 13.

Interurban Trail – The relocation of Hylebos Creek, mitigation for stream fill, would require use of approximately 2-3 acres at the southerly terminus of the trail. See Figures 4 and 7.

Riverfront Trail – This existing trail beneath the two SR 167 Puyallup River bridges will require access to the path be limited during construction, for safety reasons. The ownership of the trail would not change; there will be no adverse change to the function of the trail; and no land would be acquired from the trail. FHWA, WSDOT, and the City of Puyallup are committed to work cooperatively in identifying an acceptable interim route for the trail during the course of construction. See Appendix B.

Noise impacts in the vicinity of the Riverfront Trail were assessed in response to comments received on the SR 167 Tier II Draft EIS. Existing noise levels range from 65 to 71 dBA. Noise modeling indicated that future conditions without the project will cause noise levels to increase from 2 to 9 dBA. Future build out with the project will cause noise levels to increase an additional 1 dBA. Although the projects contributions to noise impacts are minimal, a noise wall along the south shoulder of SR 167 between Milwaukee Avenue East and SR 167/161 was found to be both feasible and reasonable. Noise mitigation will be provided at this location. Visual impacts are not anticipated at this site, as there will be no substantive change to the trail area from the project. Therefore, there is no constructive use of the site.

Planned North Levee Trail – This planned trail is proposed to run adjacent to one of the proposed wetland mitigation sites in the *SR 167 Conceptual Mitigation Plan*, WSDOT February 2005. Part of the wetland mitigation proposal at this site includes breaching of the Puyallup River dike and N. Levee Rd. to provide hydraulic connectivity for the wetlands being established. WSDOT has not identified a preferred mitigation site(s), therefore there is no use of this planned trail by the project at this time. Should that change in the future, a separate 4(f) evaluation will be circulated.

Puyallup Recreation Center - There would be no right of way acquisition from the center, so no Section 4(f) land would be permanently used by being incorporated into a transportation facility. There would be no access impacts, as access for the center is from the local street system on the opposite side from the highway. The Tier II DEIS and the studies performed in support of it did not indicate any impacts that would affect the function or use of this facility. The aesthetics in the vicinity of the recreation center may be somewhat impacted. The roadway will become a dominant element within the rural

setting adjacent to the baseball fields. The lights from cars at night will detract from current views. Mitigation proposed includes use of architectural or vegetative screening to block the view of traffic and vegetating the embankment side slopes.

The noise study prepared in support of the Tier II DEIS (Parsons Brinkerhoff, 2001) indicated noise at the recreation center would increase from 52-dBA to 70-dBA, which is a substantial increase from the existing and no build conditions. The FHWA noise abatement criterion for active recreation areas is 67-dBA. Construction of a noise wall at that location was found to be feasible because a 10-foot high wall 2,400 feet long would provide a 7-dBA reduction in noise for the Recreation Center. However, it was determined to be not reasonable under established WSDOT criteria. Using the “Noise Evaluation Procedures for Existing State Highways” (WSDOT Directive D 22-22), a residential equivalency of 15 home was calculated for the center based on the number of users. In order to achieve the 7-dBA reduction in noise, the recreation center would need a residential equivalency of 25 homes.

Avoidance Alternative

No Build Alternative

The No Build Alternative, while it will avoid impacts to all 4(f) resources, does not satisfy the purpose and need of the project, which is to improve regional mobility, serve freight and passenger movement, reduce congestion and improve safety, improve system continuity between I-5 and the SR 167 freeway, and maintain or improve air quality.

Tier I

The design of a new freeway that would connect existing SR 167 (where it connects with North Meridian Street in Puyallup) to I-5 and, ultimately, SR 509 is limited to an area between the Puyallup River to the south and Fife Heights (steep slopes) to the north. This narrow section of the Puyallup River Valley is completely within the external boundary of the Puyallup Tribal Reservation and contains a number of tribal trust properties. The Puyallup Tribe has voiced strong opposition to any corridor alternative that requires the use of tribal trust lands. Designs for this new freeway must also factor in existing environmental resources such as Wapato Creek, Oxbow Lake, Surprise Lake Drain, and Hylebos Creek; wetlands (over 107 acres of wetlands delineated by the project in this area); and associated floodplains. Furthermore, design options for an interconnection with I-5 are limited to the two existing interchanges (Port of Tacoma and 54th Avenue) and one potentially new interchange around 70th Avenue East.

With these limitations in mind, all corridor alternatives that would provide the necessary connections within this short segment were evaluated. Tying the proposed SR 167 Extension freeway into the existing I-5 / 54th Avenue Interchange was never considered a viable option. That interchange and adjoining surface streets are built-out and operating at maximum capacity. The I-5 / 54th Avenue Interchange, and the signalized 54th Avenue intersections with 20th Street and Pacific Highway were all operating at a Level of Service (LOS) "F" back in 1990. Impacts to this industrial/commercial area would require extensive and significant displacement and relocation costs. Several 4(f)

recreational resources such as Yamamoto Park, Fife Community Pool, Centennial Park, Wapato Nature Area, Wedge Park, and Dacca Park would be difficult to avoid. Up to 40 known historic 4(f) resources exist within this corridor path.

Rebuilding the entire system, adding additional traffic to this system, and designing a corridor that avoids all 4(f) resources while still meeting the purpose and need of the project is potentially not feasible and is not prudent. Therefore, all corridor alternatives that would connect with the existing I-5 at 54th Avenue were rejected.

This left a total of nine corridor alternatives which were further analyzed. The remaining alternatives were subjected to an initial screening analysis based on several criteria detailed below and were presented for public review.

Use of 4(f) Protected Resources

Eastern Washington University Archeological and Historical Services (AHS) performed the cultural resources overview for the SR 167 Tier I EIS. Background research included consultation with personnel at the Washington State Office of Archaeology and Historic preservation (OAHP) in Olympia prior to 1993. Findings included three properties recorded by Pierce County and an ethnographically documented Puyallup winter village. As confirmed in the Cultural Resource Investigations for the Washington State Department of Transportation's SR 167: Puyallup to SR 509 Project, Pierce County, Washington, AHS May 2004, and the June 15, 2004 SHPO concurrence, the three recorded properties, George Hoertrich Electrical Shop, the Golden Rule Motel, and the Firwood School Gymnasium, do not meet the National Register Criteria.

However, a number of recreational 4(f) resources were identified, including the Fife Community Pool, the proposed Nisqually Delta/Mount Rainier Trail, the proposed Wapato Creek Nature Trail, the Puyallup Recreation Center, and various bike trails.

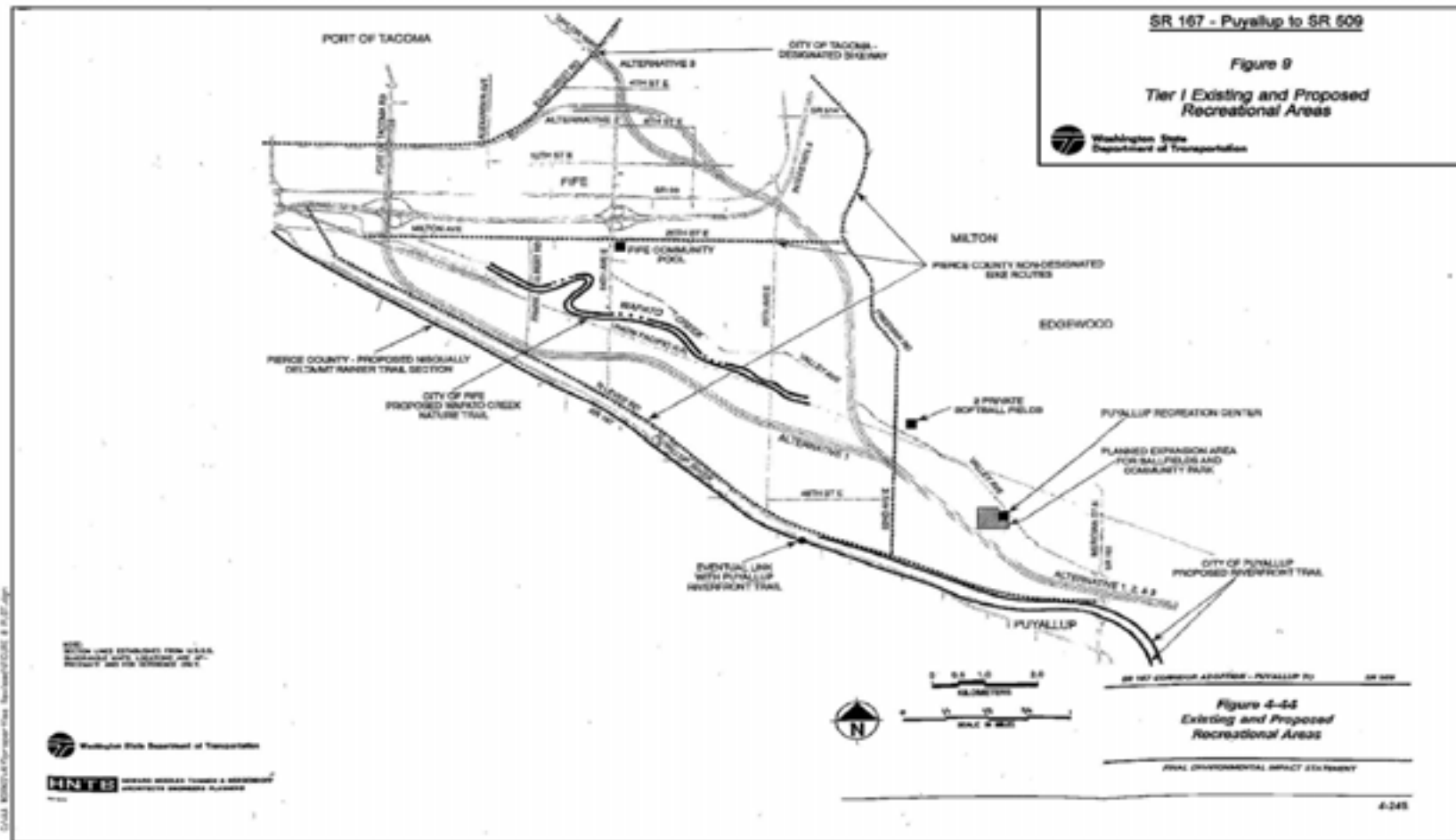
Tribal Trust Lands

Corridor alternatives that would require use of Tribal Trust Lands were determined to be not feasible or prudent. Acquisition of Tribal Trust Lands would be entirely dependent on whether the Puyallup Tribe is a willing seller of their entrusted property and the tribe clearly indicated its opposition to such a sale.

Avoidance of Wetlands, Streams, and Floodplains

Corridor alternatives that would have significantly greater impacts to wetlands, streams, or floodplains were determined to be not feasible or prudent. Any impacts to these resources require a permit from the U.S. Army Corps of Engineers, per Section 404. The permitting agency clearly indicated that only alternatives that avoided or minimized impacts to these resources would meet permit requirements.

Of the nine corridor alternatives, six alternatives would impact tribal trust lands while at the same time having significantly greater impacts to aquatic resources such as wetlands, streams, and floodplains. In addition, all of these alternatives would impact 4(f)



resources. Due to these increased environmental impacts, the opposition of the Puyallup Tribe to use of tribal trust properties, and the impact to additional 4(f) resources, these corridor alternatives are not feasible and prudent avoidance alternatives.

Only three corridor alternatives avoided all of the then identified 4(f) resources, including the then proposed Riverfront Trail, proposed Wapato Creek Nature Trail, North Levee Bike Route, and the Puyallup Recreation Center, as shown in Figure 9.

Pursuant to 23 CFR §771.135(o)(2), the three remaining corridor alternatives in Tier I were reviewed based on additional design details and identified 4(f) resources. Figure 10 shows the overlay of the three Tier I corridor alternatives and current identified 4(f) resources.

Tier 1 Corridor Alternative 1

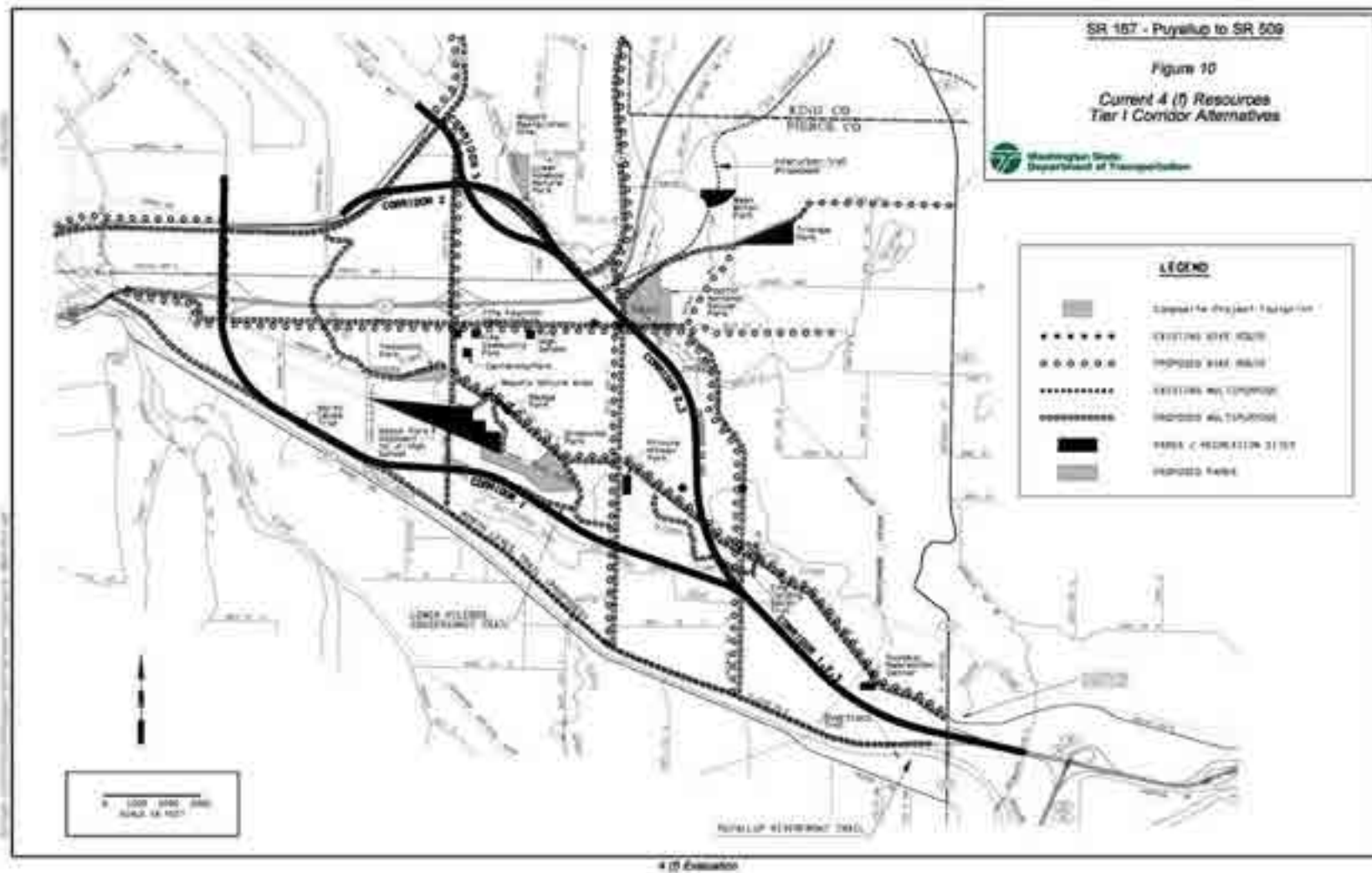
Based on the current analysis of 4(f) facilities, the following historic and recreational 4(f) resources would require a use by Corridor Alternative 1:

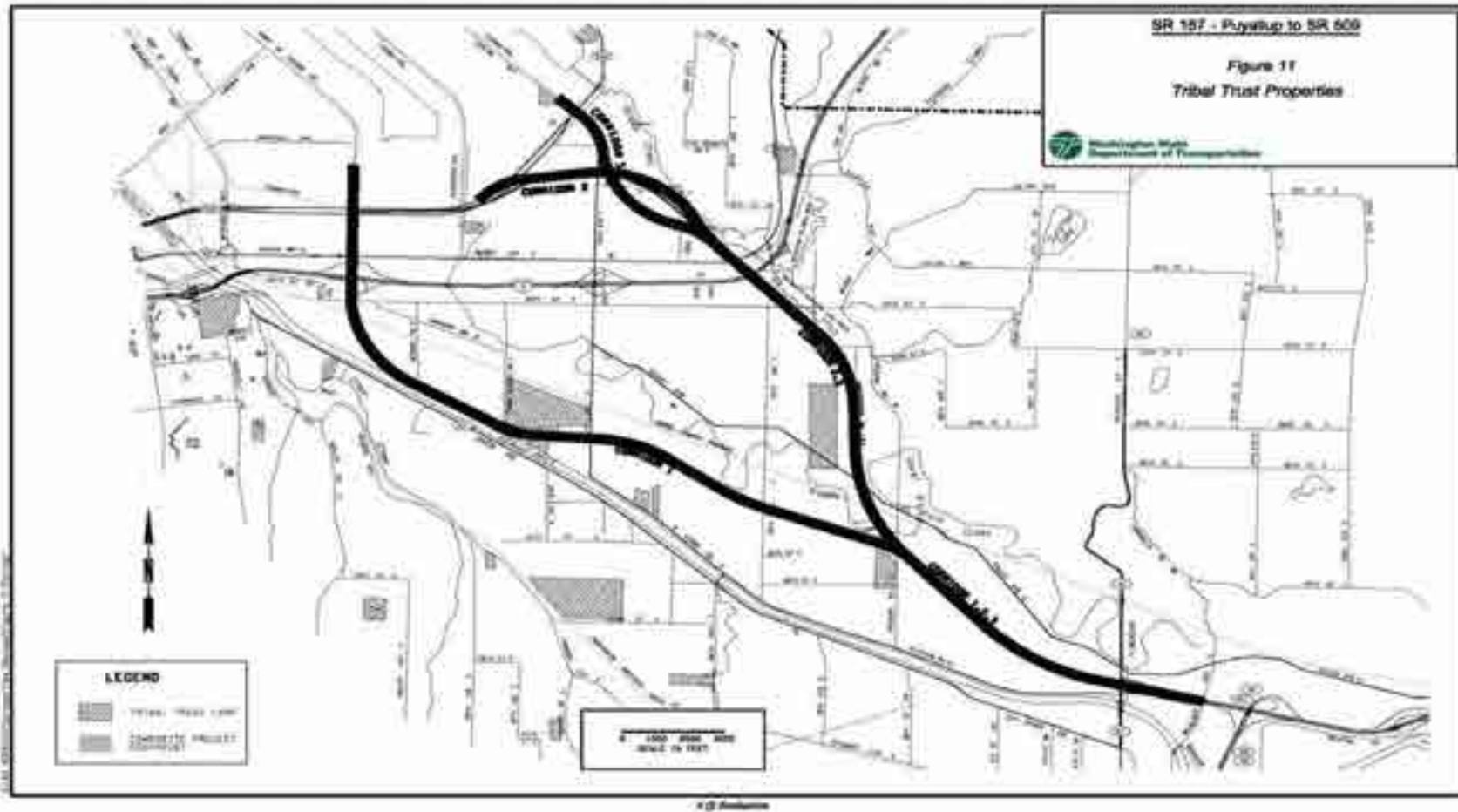
- Historic 4(f) resource: the Baggenstos Farm (Fife A-1)
- Recreational 4(f) resources:
 - A planned park adjacent to 54th Avenue;
 - The planned North Levee Trail; and
 - The existing Autumn Grove trail.

All potential historic 4(f) resources may not have been identified for this corridor, as the cultural resource survey performed for the Tier II document was limited to the preferred Tier 1 corridor alternative (2).

Corridor Alternative 1 is not a prudent alternative due to the following factors:

1. Impacts to Puyallup Tribal Trust Lands: Corridor Alternative 1 would bisect one of the few remaining large tribal trust properties for the Puyallup Tribe, and was not supported by the Tribe, see Figure 11. A number of project related issues remained unresolved with the Puyallup Tribe, including visual, noise, and traffic impacts to Tribal Trust Lands, but the Tribe clearly indicated would only support a corridor alternative which avoided all Tribal Trust Lands. Commitments to the Puyallup Tribe are in Appendix K of the SR 167 Tier I EIS and the Tier I Record of Decision (ROD).
2. Wetlands: Wetland impacts were reanalyzed as part of the *404(b)(1) Alternatives Analysis*, WSDOT July 2004. A 220' corridor width had been applied in estimating wetland impacts for the Tier I document. Refinement of the corridor in Tier II revised the footprint of the project such that impacts were evaluated within an approximately 400' area, to accommodate interchange options and park and ride facilities. Application of a 400' wide zone to the analysis of wetland impacts significantly increases the amount of impacts associated with Corridor Alternative





1. Also, although Tier I wetland impacts were based on wetland inventories², one partially delineated wetland³ would be impacted by Corridor Alternative 1 which also increased impacts. Table 4 shows the revised wetland impact analysis.

Table 4: Revised Estimated Tier I Corridor Wetland Impacts

Corridor Alternative^a	Segments	Tier I FEIS Wetland Impacts	Revised Estimated Wetland Impacts
Corridor 1	A & E	14.55	>37.89^c
Corridor 2	A, B, & C	7.44	32.9^b
Corridor 3	A, B, & D	15.98	>44.08^c

a) Corridor Alternative from the Tier I EIS.

b) Corridor 2 impacts are not an estimate, but actual project impacts from the Tier II EIS.

c) Currently definable estimates. These impacts would most likely increase proportionally with field delineation along the entire corridor.

Corridor Alternative 1 would also limit mitigation opportunities in the Puyallup River basin, as the corridor would impact the Union Pacific Railroad Site, which has a high potential for mitigating all of the projects impacts for wetland fill activities.

3. Floodplain impacts: The levy system on the Puyallup River is currently failing due to excessive buildup of sediment and the determination by the US Army Corps of Engineers, that dredging the sediment is no longer a supportable practice. A study is underway to determine the new boundaries of the floodplain in the Puyallup River Basin. Corridor Alternative 1, with its proximity to the Puyallup River, would be within the extended 100-year floodplain. Designing the roadway within this extended floodplain would be very difficult and potentially costly, as determining what the impacts of the failing levy system would have to facilities in the proximity of the Puyallup River are not currently available.
4. Floodplain benefits: Corridor Alternative 2 includes the relocation of Hylebos Creek. This relocation will address current and future projected increased flooding of I-5 in the vicinity of the City of Fife (Fife Curve). Corridor Alternative 1 would not require the relocation of Hylebos Creek.

Tier 1 Corridor Alternatives 2 and 3

Corridor Alternative 2 and 3 differ only between SR 509 and the I-5 Interchange. Therefore, all 4(f) resources affected by the preferred alternative would also be used by

²U.S. Fish and Wildlife National Wetland Inventory maps, along with the Pierce County, City of Fife, and City of Puyallup wetland inventory maps were used to identity wetlands in the project area in Tier I.

³ Wetlands were delineated in accordance with the U.S. Army Corps of Engineers *Wetland Delineation Manual* (Environmental Laboratory, 1987). Not all wetlands were completely delineated (i.e. all boundaries and buffer areas identified), just wetlands within the project footprint.

Corridor Alternative 3. Corridor Alternative 3, as shown in Table 4, would have the most significant wetland impact of the corridor alternatives. With 44 acres of wetland impacts, the project would fail to receive the necessary permits to construct the project. Specifically, Corridor Alternative 3 would fail to meet the requirements for Section 404, specifying a design that is the Least Environmentally Damaging and Practicable Alternative (LEDPA).

There are no corridor alternatives meeting the purpose and need of this project that would avoid 4(f) resources based on the current analysis of 4(f) resources. Corridor 1 would use 3 recreational resources and Corridors 2 and 3 would use 2 recreational resources. Although one, as opposed to three, historic resources have been identified for Corridor 1, additional historic resources are document in the vicinity of Corridor 1. In addition, Corridor Alternatives 1 and 3 are not feasible and prudent avoidance alternatives due to their impacts to wetlands and the determination by the U.S. Army Corps of Engineers that these alternatives are not LEDPA.

Tier II

In the Tier II analysis, the preferred Corridor Alternative 2 design was refined and interchange options were developed as described in the previous section, Alternatives and Options. Avoidance alternatives associated with the interchanges are discussed below.

I-5 Interchange

After the ROD for the Tier 1 EIS was approved by FHWA, the mainline alignment of SR 167 had to be redesigned because geometric design standards were not met. For the mainline redesign, five different centerline-only options were developed for SR 167 between SR 509 to just south of the I-5 Interchange. All these options met the current design standards and changed the I-5 crossing from a horizontal curve to a tangent section.

Avoidance of the Planned Pacific National Soccer Facility

State and Federal guidelines require a minimum distance of 1 mile between interchanges. Because of the location of Hylebos Creek and the geography of the area in this vicinity, it is not possible to place this interchange any further north than 0.8 miles from the 54th Street East I-5 Interchange. In addition, any redesign of the SR 167 mainline to the north would continue to require use of the Interurban Trail. Based on these factors, it is neither feasible nor prudent to relocate the mainline to the north in an attempt to avoid the planned Pacific National Soccer Facility.

Avoidance of Historic Resources

The proposed I-5 interchange location is also limited by the two historic 4(f) resources on 20th Street East on the south/west side of the alignment. Avoidance of these two historic resources would require the relocating the interchange at least 300', which would not meet standards for placement of interchanges to the south. In addition, relocating the proposed I-5 Interchange closer to existing 54th Street Interchange would impact a commercial area of the City of Fife. As shown in the picture below, the majority of the

impacts would be associated with an apartment complex with 241 units, with one through three bedrooms. This complex has a requirement to fill 20% of the complex with low income families. The apartment complex reported 90% occupancy in 2001. Displacing these families would increase displacement impacts associated with the I-5 Interchange by 217 to 241 Multi-Family Units, an impact of extraordinary magnitude. Therefore, redesigning the mainline to avoid these 4(f) resources is neither feasible nor prudent.



SR 167 Bridge Over Existing 20th Street East

SR 167 will have a direct impact on 20th Street East. Maintaining 20th Street East in its current alignment would avoid the historic (4f) resource, Site No. 27-4154. Extending the structure for the I-5 Interchange to provide continued access for this local road was evaluated.

In order to accommodate required bridge clearance for this existing roadway, the I-5 Interchange would be required to be elevated to four levels. This option was evaluated in the *Value Engineering Study Report, SR 167 and I-5 Interchange*, October 2000.

Residents in the Fife Heights area expressed concern based on visual impacts from the elevated structures. At three levels, the I-5 interchange will be approximately 80 feet high, adding a 4th level to the I-5 I/C will add approximately 26-30 feet of height. Visual and audible impacts for these residents would occur if a 4 level interchange was developed, see Figure 12.

Cost estimates for additional structures necessary for a 4 level interchange would be \$87.5 million more than a 3 level interchange, due to poor soil stability. Although it is feasible that a 4 level structure could be designed for the proposed I-5 interchange, it is

not prudent due to an additional construction cost of extraordinary magnitude. Therefore, it was determined that both 70th Avenue and 20th Street East should be realigned in order to keep the total interchange at three levels.

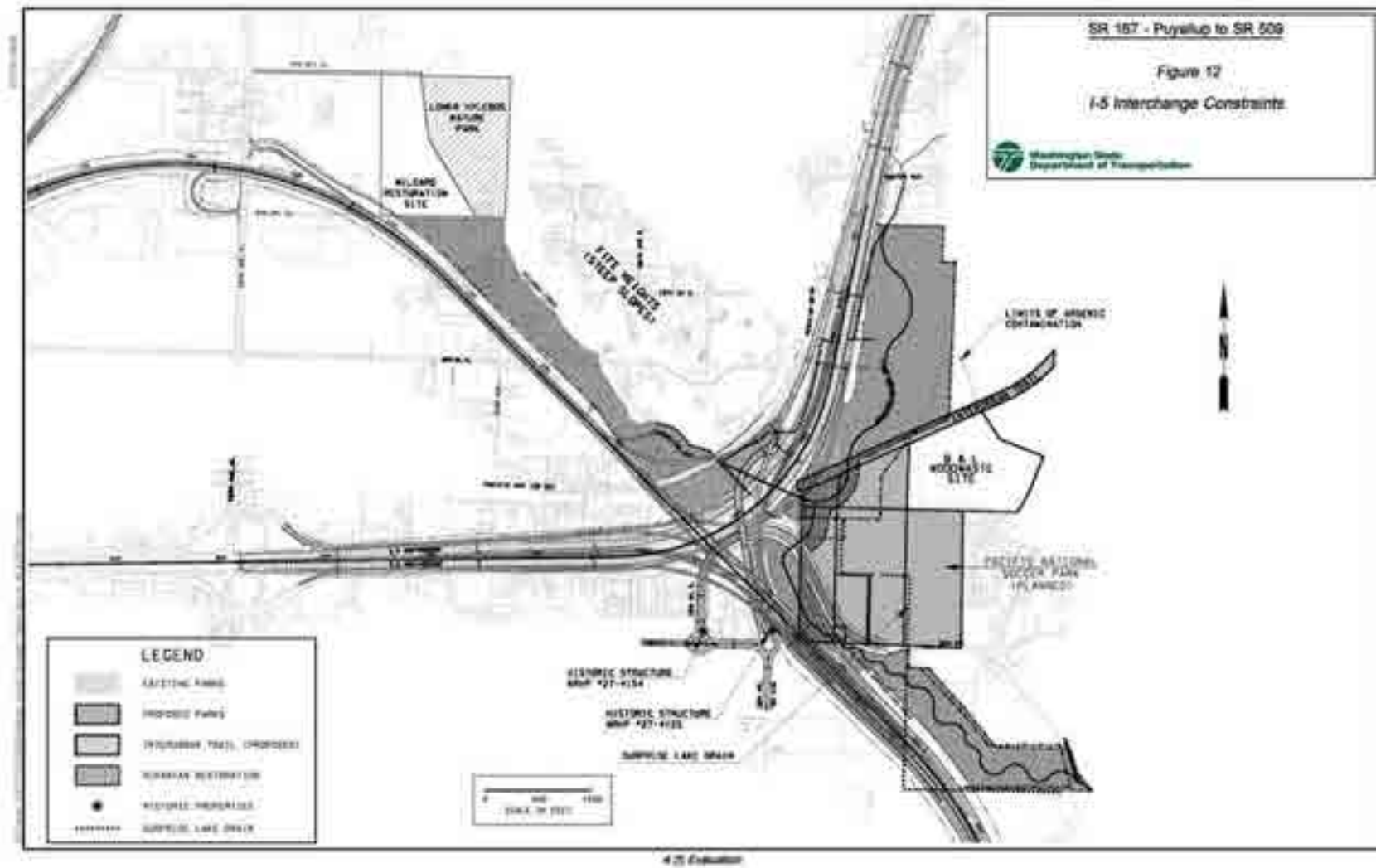
Placement of the relocation of 20th Street East is limited by design factors, such as the distance between the two-lane roundabouts associated with the 20th Street East and 70th Avenue relocations. If the relocation was shifted to the west, a large apartment complex described above would be impacted requiring extensive relocations as well as high real estate costs. The apartment complex also contains 48 Section 8, low-income units. Impacts to the apartment complex would include environment justice impacts, due to those low-income facilities. In addition, none of the potential designs for 20th Street East would avoid all 4(f) resources. Therefore, it is not prudent to bridge existing 20th Street East or relocate 20th Street East to the west.

Relocation of Hylebos Creek

The southern terminus of the Interurban Trail and the planned Pacific National Soccer Park are impacted by the proposal to relocate Hylebos Creek. Existing Hylebos Creek, between the existing 70th Avenue bridge and the first existing crossing I-5 crossing, would be filled as part of the NB I-5 widening. Leaving the creek in the existing location but inside a closed pipe, would not be acceptable to permitting agencies. Impacts to the creek affect 2,050 linear feet of stream bed. Closed pipes of any significant length are an effective block to aquatic species, such as salmonids. Therefore, a closed pipe could not be installed in the existing location.

Relocating the creek further to the west side of proposed I-5 widening would not provide enough riparian buffer to meet City of Fife Critical Area Ordinances. The channel would need to be linear and potentially armored, which would impact the creek instead of improve it. Furthermore, this area is needed to provide water quality treatment for mainline I-5 and the SB I-5 to SR 167 off ramp. This is because I-5 in the vicinity of the proposed interchange drains all highway runoff to the west with no other options to channel the stormwater elsewhere.

Crossing I-5 at the preferred location provides the fewest impacts to Hylebos Creek and optimizes flood conveyance. The proposed design will reduce existing and future flooding problems in the vicinity, according to a study prepared for WSDOT by MGS Engineering, November 2004. Portions of I-5 in this vicinity were flooded during the 1990 and 1996 floods. WSDOT is evaluating the I-5 profile in an effort to keep the new I-5 crossing of Hylebos Creek above the floodwater. WSDOT is limited on how high the I-5 profile could be elevated because of the height limitations on the interchange structures due to foundation considerations, and the additional structural costs resulting from extending bridge lengths in response to raising the I-5 profile. Therefore, the relocated stream channel will be designed to successfully address both existing and future flooding of I-5.



WSDOT considered locating the new Hylebos Creek crossing in the vicinity of the existing 70th Avenue Bridge. This would reduce the channel length required for the relocation, avoid impacts to a sewer main, and avoid impacts to the Interurban Trail.

However, this option would not function as efficiently for flood conveyance as the preferred option, potentially resulting in flooding of the new I-5 freeway bridge over Hylebos Creek, and would not resolve the existing problems of flooding over I-5 lanes.

Also, if the Hylebos crossing was moved further north, it would impact the crossing of Surprise Lake Drain. If the Surprise Lake Drain crossing is moved further north, then this stream will impact the Interurban Trail. If a connection to relocated Hylebos Creek is not provided, then two bridges at I-5 would be required instead of one, which will add cost to the project.

Relocating Hylebos Creek further north would also have greater ecological impacts to Hylebos Creek because of the construction of relocated 70th Avenue and the SB I-5 to NB 167 Off-Ramp. For the reach between the existing SR 99 and 70th Avenue bridges, the remaining riparian buffer for Hylebos Creek would be reduced to essentially zero on the north and about 100 feet to the south. These buffers are deficient by any scientific standard, including the City of Fife's Critical Areas Ordinance, and the Integrated Streambank Protection Guidelines, which is WSDOT's standard for best available science. This option would also eliminate the wildlife linkage with the Surprise Lake Tributary, and require separate I-5 crossings for this tributary stream. WSDOT would not likely acquire permits for this work.

Surprise Lake Drain Relocation

The Planned Pacific National Soccer Facility is located within the ditched system of Surprise Lake Drain. The City of Fife will need to address impacts to this waterbody as part of the construction of the soccer facility. The project has proposed to relocate Surprise Lake Drain as part of the mitigation for fill of Surprise Lake Drain by the mainline section of SR 167. In the DEIS, the relocation of Surprise Lake Drain would be located to the east of relocated 20th Street. The relocation as originally proposed, and the riparian buffer (at least 150 feet wide), would impact the planned soccer facility, requiring use of 12 of 18 proposed soccer fields (approximately 40 of 54 acres), Figure 4.

Through coordination with the City of Fife, WSDOT redesigned both the relocation of 20th Street and the relocation of Surprise Lake Drain. This redesign, though limited by roadway curvature standards for 20th Street and regulatory buffers for Surprise Lake Drain, minimizes use of the soccer facility such that the City of Fife will be able to design 12 soccer fields in the remaining area, see Figure 13.

Valley Avenue Interchange

The SR 167 corridor alignment in the vicinity of Valley Avenue is limited by a historic and recreational 4(f) resource to one side, and a historic 4(f) resource on the other side.

One historic resource, a residence, is beneath the structure of the mainline alignment as it bridges Valley Avenue. This residence would be located between the structure of mainline SR 167 and the proposed off-ramp from northbound SR 167 to Valley Avenue. The alignment near this site is extremely confined by factors such as:

- Design requirements: a shift of the corridor to avoid 4(f) resources would require the mainline corridor alignment to shift at least 300' either east or west of the proposed alignment;
- Geographical limitations to the east of Freeman Road: The corridor alignment cannot be shifted to the east due to cliffs adjacent to Freeman Road;
- Tribal trust lands: Shifting the alignment west would significantly impact six tribal trust properties. One tribal trust property also exists to the east of the alignment (see Figure 11);
- Crossings of Wapato Creek: The current alignment limits crossings of Wapato Creek to 1 mainline crossing. Shifting the alignment either east or west would increase mainline crossings by at least one.



Measures to Minimize Harm

Historic Resources

As outlined in the Memorandum of Agreement (see Appendix A), the residences will be offered for sale, based on the buyer's ability to move the residence to a different location.

If the house does not sell within a year, photo-documentation will occur and the residences will be demolished.

Recreational Resources

Lower Hylebos Nature Park

Access to the site, including parking, will be coordinated with the City of Fife. Discussions to date have covered improvements to 4th Street East and the possibility of constructing a pedestrian bridge across Hylebos Creek.

Planned Pacific National Soccer Park

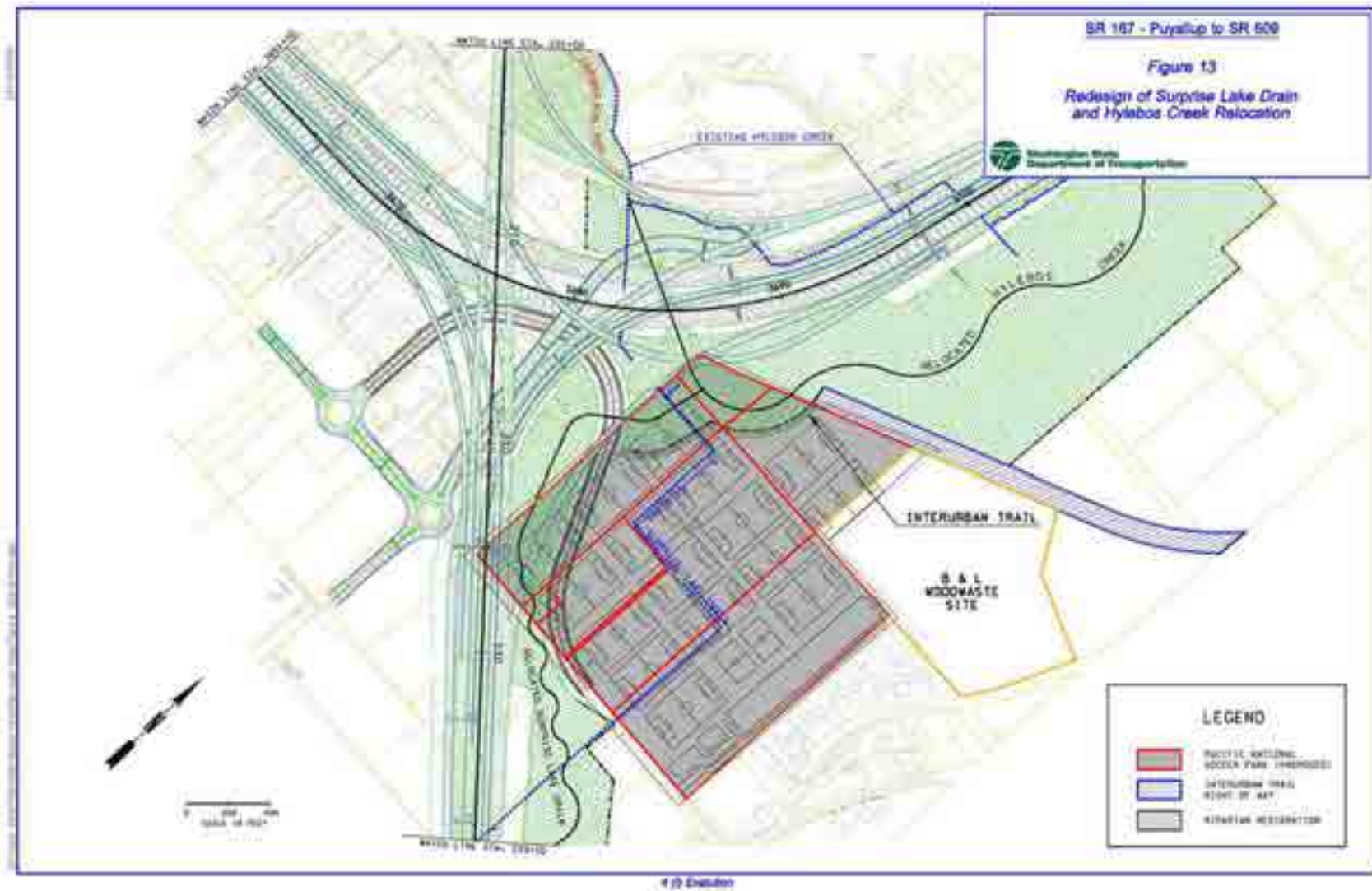
The City of Fife was aware of the highway design at the time they proposed and acquired the soccer complex property, and presentations made to the public of the complex design in June 2003 showed the proposed highway project relative to the proposed layout of soccer fields and associated site improvements. Through meetings with the city, WSDOT prepared an alternative design of the I-5 interchange, which reduced impacts to the planned soccer complex such that 12 fields are possible at this site, Figure 13. This meets the minimum requirements for the City of Fife for funding of this facility.

The SR 167 Project has incorporated elements into the design of the project that will benefit the planned Pacific National Soccer Park. The *Analysis of the SR 167 Extension and Riparian Restoration Proposal in the Hylebos Watershed*, November 2004, included stormwater runoff from the soccer complex. The project proposal to relocate Surprise Lake Drain from its current ditched location and create a riparian zone around the relocation area will directly benefit the planned soccer facility. The benefits of this relocation would also include reducing flood impacts to the planned Pacific National Soccer Park.

Because funding for construction of SR 167 is not secured at this time, and the City is currently developing the master plan for the soccer complex, WSDOT is committed to continue working with the City of Fife as the plans for both the relocation of Surprise Lake Drain and Hylebos Creek with associated regulatory buffers are refined. Final measures to minimize harm to the soccer complex will be determined once construction funding for SR 167 has been secured. Mitigation, if necessary, will be provided for any required use of the developed soccer facility.

Interurban Trail

Access to relocated 20th Street East which will provide access to relocated 70th Avenue through local streets, will be provided as part of the relocation of the southern terminus of Interurban Trail, Figure 13. Any additional facilities, such as parking that are developed for the trailhead of the Interurban Trail by the City of Milton, if use is required, will also be addressed. A conversion package will be put together detailing that all practical alternatives to the conversion have been evaluated and rejected; the fair market value of the land to be converted and the replacement land; that the replacement land is of reasonably equivalent recreation or habitat utility and location; and that the replacement land meets eligibility requirements, prior to construction of SR 167.



In addition, the *Analysis of the SR 167 Extension and Riparian Restoration Proposal in the Hylebos Watershed*, October 2004, also determined that flood impacts to the Interurban Trail will be limited to the 100-year storm event with the project's proposal to relocate Hylebos Creek and establish the riparian corridor.

Coordination

From the beginning of the planning process around 1990, a considerable effort has been made to include a wide assortment of groups and individuals as resources. A Steering Committee (which became a Partners Committee in Tier II) is comprised of representatives from the City of Puyallup, Port of Tacoma, City of Tacoma, City of Edgewood, FHWA, City of Fife, City of Milton, Pierce County, Pierce Transit, Puyallup Tribe, Puget Sound Regional Council, and WSDOT. A citizen's Advisory Committee was made up of citizens from the various jurisdictions who are affected by or interested in the project. Stakeholder interviews were held to solicit the opinions of representatives of the various jurisdictions. Design workshops were held with outside agencies to solicit their ideas about the project. A Value Engineering Study was conducted which looked at 67 options for the design of the I-5/SR 167 interchange. At least 4 open houses were held to present the project to the public and gather their input. Meetings have also been held with the Tacoma Chamber of Commerce, Edgewood Business Association, Puyallup River Watershed Council, and other businesses, developers, city councils, and local homeowners.

As part of the 404 Merger Agreement process, FHWA and WSDOT regularly met with the National Marine Fisheries Service, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, Washington State Department of Ecology, and Washington State Department of Fish and Wildlife representatives.

Specific to the Section 4(f) resources, FHWA and WSDOT has closely coordinated with the SHPO, the cities of Fife, Puyallup, and Milton, Pierce County, and the Puyallup Tribe. A series of meetings was held in the spring and summer of 2004 with the cities and county for the expressed purpose of exploring joint development for the Fife Soccer Complex and Interurban Trail, providing access to the City of Fife Lower Hylebos Nature Park, and mitigating construction impacts to the Puyallup Riverfront Trail.

The Memorandum of Agreement (MOA) prepared to satisfy Section 106 requirements (draft in Appendix A) has been developed in cooperation with the SHPO and will be filed with the Advisory Council on Historic Preservation at the conclusion of the consultation. By circulation of this draft Section 4(f) Evaluation, comments will be sought from the U.S. Department of the Interior as required in 23 CFR §771.135(i).

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Appendices

Appendix A: Section 106

Appendix B: Letter, City of Puyallup, Concerning Riverfront Trail

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**Appendix A: Section 106
Draft 4(f) Evaluation
SR 167 Puyallup to SR 509**

**A-1: May 14, 2004 Determinations of Eligibility and Adverse Effect,
WSDOT**

A-2: June 15, 2004 Determination of Eligibility, OAHP

A-3: July 13, 2004 ACHP Notification, FHWA

A-4: August 10, 2004 ACHP Response

A-5: Draft Section 106 MOA

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Washington State
Department of Transportation
Douglas E. MacDonald
Secretary of Transportation

14 May 2004

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Allyson Brooks, Ph.D.
State Historic Preservation Officer
Office of Archaeology and Historic Preservation
P.O. Box 48343
Olympia, WA 98504-8343

**Re: SR 167 Puyallup to SR 509 Tier II EIS Project, Pierce County
Determinations of NRHP Eligibility and Adverse Effect
OAHF Log #: 042803-07-WSDOT**

Dear Dr. Brooks:

Enclosed please find EWU's report (DOT01-14, dated May 2004), which includes a number of documents generated over the past several years for this project pursuant to compliance with Section 106 of the NHPA and 36CFR800. Staff in your office have reviewed and commented on all reports and property inventories recorded prior to the most recent field work by EWU, referenced below.

Also enclosed are determinations of NRHP eligibility on historic property inventory and archaeological site forms for eight properties identified during EWU's last (DOT04-08, April/May 2004, Appendix I in the larger report DOT01-14) survey and inventory efforts. (These properties have not previously been submitted to your office for comment). We have determined the John Baggenstos Farm (called "Former Farm" on the form) on N. Levee Road in Fife **eligible** for inclusion in the NRHP.

We have determined the other seven properties **ineligible** for inclusion in the NRHP. Ineligible properties include:

House at 4105 N. Levee Rd., Field #Fife-B-1
House at 3102 Frank Albert Rd., Field #Fife-C-1
Christoph House at 3206 Frank Albert Rd., Field #Fife-D-1
Garret Spier House at 3321 N. Levee Rd., Field #Fife-B-1
Abandoned House near Valley Rd. and 36th Ave. E., Field #Fife-E-1
Historic Scatter 1, Site #45P1661
Historic Scatter 2, Site #45P2664

Allyson Brooks
14 May 2004
Page 2

Based upon the above determinations, and previous WSDOT determinations and concurrences from your office, the following properties within the project's APE have been determined **eligible** for inclusion in the NRHP:

John Baggenstos Farm, N. Levee Road (Field # Fife-A-1)
Bungalow at 7001 20th St. East (OAHP #27-4125, WSDOT #P202)
Bungalow at 6803 20th St. East (OAHP #27-4154, WSDOT #P168)
Bungalow at 7717 Valley Ave. East (OAHP #27-4114, WSDOT #P239)
Bungalow at 3423 Freeman Rd. (OAHP #27-4160, WSDOT #P490)
Prehistoric Site (#45P1488, WSDOT #P134)

Also enclosed please find maps showing properties determined to be NRHP eligible, and their locations in relation to the proposed roadway. Based upon proximity and anticipated impacts to those properties, we have determined that the project will have adverse effects on historic properties. Specific properties that will likely be adversely affected include:

Bungalow at 7001 20th St. East (OAHP #27-4125, WSDOT #P202)
Bungalow at 6803 20th St. East (OAHP #27-4154, WSDOT #P168)
Bungalow at 7717 Valley Ave. East (OAHP #27-4114, WSDOT #P239)
Bungalow at 3423 Freeman Rd. (OAHP #27-4160, WSDOT #P490)

As you can see from the enclosed maps, the first three of the above properties (identified on the maps as P202, P168, and P239) will be dismantled due to their being within or near the project's construction footprint. The Bungalow at 3423 Freeman Rd. (P490) stands approximately 235 feet from the proposed right-of-way. Visual, audible, and atmospheric effects could be adverse at that location. The John Baggenstos Farm stands on the proposed wetland mitigation parcel (not shown on the maps) and will be avoided during enhancement of the proposed wetlands. Because all enhancement developments can be designed well away from the structures, no adverse effect is anticipated at the Baggenstos Farm.

Similarly, no adverse effect is anticipated to occur on the prehistoric site (#45P1488, WSDOT #P134, the site boundary for which is the irregular-shaped red line on the map within the larger rectangular parcel). A bridge has been designed to span the site, with the structure's piers to be situated outside the known boundaries of the site. Although elements of the site are not likely to be encountered, WSDOT will ensure that monitoring of construction of the pier is done in the vicinity of the gravel parking lot adjacent to the Vitamilk Dairy.

Allyson Brooks
14 May 2004
Page 3

Due to WSDOT's inability to access some private properties, and the evolving nature of our wetland mitigation needs, we recognize the need to complete further cultural resources investigations. We think that the proper venue for addressing our commitment to completing our Sec. 106 obligations will be in the MOA developed to address mitigation of adverse effects for the project. At this time, we are proposing to complete large-format photo documentation to Historic American Building Survey (HABS) standards of the properties adversely affected.

I look forward to your concurrence with our determinations of NRHP eligibility and adverse effect, and to consulting with you in developing an MOA for the project. If you have concerns or questions, please contact me at 360-570-6639, email at holstinec@wsdot.wa.gov, or Michelle Eling at 360-570-6737. Thank you for your attention to these matters.

Sincerely,



Craig Holstine
Cultural Resources Specialist

Enc.

Cc: ~~Michelle Eling, WSDOT-Olympic Region~~
Megan Hall, FHWA

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1003 S. Capitol Way, Suite 105 - Olympia, Washington 98501
(Mailing Address) PO Box 48343 - Olympia, Washington 98504-8343
(360) 586-3065 Fax Number (360) 586-3067

RECEIVED
JUN 18 2004

June 15, 2004

Mr. Craig Holstine
Cultural Resource Specialist
WSDOT Olympic Region
PO Box 47300
Olympia, Washington 98504-7300

In future correspondence please refer to:
Log: 042803-07-WSDOT
Property: SR 167, PUYALLUP TO SR 509
Re: Determination of Eligibility

RECEIVED
JUN 18 2004
ENVIRONMENTAL AFFAIRS POINT PLAZA

Dear Mr. Holstine:

Thank you for contacting the Washington State Office of Archaeology and Historic Preservation (OAHP). The above referenced project has been reviewed on behalf of the State Historic Preservation Officer under provisions of Section 106 of the National Historic Preservation Act of 1966 (as amended) and 36 CFR Part 800. My review is based upon documentation contained in your communication. Please note that we have responded to this project in two other letters, one dated 2-10-04 and one dated 4-9-04.

Research indicates that the no resources within the APE of the project are currently listed in the Washington Heritage Register or National Register of Historic Places. Below is our assessment of the final document as provided by your office. In review of the provided report and survey forms I have determined that a total of 64 surveyed resources are not eligible for the National Register of Historic Places. Five historic resources and 1 archaeological site have been determined eligible for the National Register of Historic Places. (See table below).

Below are the assessments for the various eligible properties and the affect determinations:

John Baggenston Farm, N. Levee Rd.	Concur site is Eligible for NR	No Adverse Effect
6803 20 th Street East	Concur site is Eligible for NR	Adverse Effect
7001 20 th Street East	Concur site is Eligible for NR	Adverse Effect
7717 Valley Avenue East	Concur site is Eligible for NR	Adverse Effect
3423 Freeman Rd.	Concur site is Eligible for NR	Adverse Effect
45P1438	Concur site is Eligible for NR	No Adverse Effect

In summary, I have a total of 5 historic resources and 1 archaeological site eligible for the National Register of Historic Places, with four of the those properties having an Adverse Effect as a result of the proposed project.

As a result of these findings, further contact with QAHP will be necessary since the project involves federal funds, permits or licenses and an MOA will need to be developed to mitigate the impacts to the eligible historic and cultural resources.

Thank you for the opportunity to review and comment. Should you have any questions please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'M. Houser', with a long horizontal line extending to the right.

Michael Houser
Architectural Historian
(360) 586-3076
MichaelH@cted.wa.gov



U.S. Department
of Transportation
**Federal Highway
Administration**

Washington Division

Suite 501 Evergreen Plaza
711 South Capitol Way
Olympia, Washington 98501-1254
(360) 753-8480
(360) 753-8589 (FAX)
<http://www.fhwa.dot.gov/wash>

July 13, 2004

HPO-WA2/SR 167

RECEIVED
JUL 15 2004
OLYMPIC REGION

RECEIVED
JUL 13 2004

Mr. Don L. Klima, Director
Western Office of Planning Review
Advisory Council on Historic Preservation
12136 West Bayaud Avenue, Suite 330
Lakewood, Colorado 80228

**SR 167 Extension, Puyallup to SR 509
Pierce County, Washington**

Dear Mr. Klima:

The Washington State Historic Preservation Office determined that five historic resources and one archaeological site have been determined eligible for the National Register of Historic Places. Attached for your information is correspondence from the SHPO for the subject project, a vicinity map, and excerpts from the Cultural Resource Report for background information.

In compliance with the revised Section 106 of the National Historic Preservation Act regulations effective January 11, 2001, Section 800.6(a)(1), we are notifying you that the proposed SR 167 Extension Project will have an adverse effect on the four structures describe in the attached documentation.

Pursuant to 36 CFR §800.6(a)(1), please notify us within fifteen days if you wish to participate in this project and be included as a signature authority on the MOA.

If you have any questions or require additional information on this project, please feel free to contact me at (360) 753-8079 or via email at megan.hall@fhwa.dot.gov.

Sincerely,

DANIEL M. MATHIS, P.E.
Division Administrator

Megan P Hall

By: Megan P. Hall
Area Engineer

Enclosure

cc: Dr. Alyson Brooks, SHPO
Sandra Turner, WSDOT, DSC
Michelle Elting, WSDOT OR

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Preserving America's Heritage

August 16, 2004

Daniel M. Mathis
Division Administrator
Federal Highway Administration
Suite 501 Evergreen Plaza
711 South Capitol Way
Olympia, WA 98501-1284

RE: *Pierce County, SR 167 Extension Project*

Dear Mr. Mathis:

We received your notification and supporting documentation regarding the adverse effects of the referenced project on a property or properties eligible for inclusion in the National Register of Historic Places. Based upon the information you provided, we do not believe that our participation in consultation to resolve adverse effects is needed. However, should circumstances change, please notify us so we can re-evaluate if our participation is required. Pursuant to 36 CFR 800.6(b)(iv), you will need to file the Memorandum of Agreement, and related documentation at the conclusion of the consultation process. The filing of this Agreement with the ACHP is necessary to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with your notification of adverse effect. If you have any questions, please contact Carol Legard at 969-5110 or via email at clgard@achp.gov.

Sincerely,

Nancy Kochan
Office Administrator/Technician
Western Office of Federal
Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION

12135 West Bayaud Avenue, Suite 330 • Lakewood, Colorado 80226
Phone: 303-669-5110 • Fax: 303-669-5115 • achp@achp.gov • www.achp.gov

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**DRAFT MEMORANDUM OF AGREEMENT
BETWEEN THE FEDERAL HIGHWAY ADMINISTRATION AND THE
WASHINGTON STATE HISTORIC PRESERATION OFFICE PURSUANT TO 36 CFR
Part 800.6(a)**

WHEREAS, the US Department of Transportation, Federal Highway Administration (FHWA) has provided financial assistance to the Washington State Department of Transportation (WSDOT) for completion of SR 167 freeway between SR 161 (Meridian Street North) in Puyallup and SR 509 freeway in Tacoma, located in Pierce County, Washington, Federal Aid Project No. STPUL-0167(026); and

WHEREAS, WSDOT has completed a cultural resources survey in the area of potential affect as follows:

- Historic Property inventory/evaluation within a 400 foot offset on either side of the centerline established in the Environmental Impact Statement (EIS) process; and
- Cultural Resources ground survey within a 200 foot offset on either side of the centerline established in the EIS process and any additional right of way required for actual construction including interchanges, stormwater facilities, mitigation sites, and Park & Ride facilities. Subsurface testing was performed in areas as determined by a geomorphologist; and
- Consultation on Traditional Cultural Properties with the Puyallup Tribe of Indians (Tribe).

WHEREAS, FHWA has determined, and the State Historic Preservation Office (SHPO) has concurred, that the SR 167 Puyallup to SR 509 project (the undertaking) will have an adverse effect upon the following properties determined to be eligible for inclusion in the National Register of Historic Places:

- Bungalow at 7001 20th St. East (OAHP #27-4125, WSDOT #P202)
- Bungalow at 6803 20th St. East (OAHP #27-4154, WSDOT #P168)
- Bungalow at 7717 Valley Ave. East (OAHP #27-4114, WSDOT #P239)
- Bungalow at 3423 Freeman Rd. (OAHP #27-4160, WSDOT #P490)

WHEREAS, FHWA has determined, and the State Historic Preservation Office (SHPO) has concurred, that the SR 167 Puyallup to SR 509 project (the undertaking) will not have an adverse effect upon the archeological site, prehistoric site 45PI488, determined to be eligible for inclusion in the National Register of Historic Places; and

WHEREAS, FHWA has notified the Advisory Council on Historic Preservation (ACHP) of the effects pursuant to 36 CFR Part 800.6(a)(i), regulations effective January 11, 2001, implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); and

WHEREAS, the Advisory Council has declined to participate, but requests that pursuant to 36 CFR 800.6(b)(iv), a Memorandum of Agreement (Agreement), be developed in consultation with the SHPO, and related documentation be filed with the ACHP at the conclusion of the consultation process; and

WHEREAS, a Department of the Army permit, pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act, will be required from the United States Army Corps of Engineers, Seattle District, (COE), to conduct activities related to the construction of SR 167, Puyallup to SR 509, and has been invited to be a signatory to this agreement; and

WHEREAS, the Washington State Department of Transportation (WSDOT) participated in the consultation and has been invited to be a signatory to this agreement; and

WHEREAS, formal Section 106 consultation pursuant to 36 CFR 800.2(a)(4) was initiated with the Puyallup Tribe in 2000. The Tribe then designated the Tribal Historic Official and the Cultural Resources Technical Advisor as lead contacts for the Tribe on cultural resource-related matters involving WSDOT and/or the FHWA. The Tribe has participated in the consultation and has been invited to be a signatory to this agreement; and

NOW, THEREFORE, the FHWA, COE, WSDOT, Puyallup Tribe, and the Washington SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

The FHWA will ensure that the following measures are carried out:

- 1) To minimize visual effects, WSDOT will plant riparian vegetation on the outer edges of the proposed ramp curve nearest the 3432 Freeman Road historic property.

- 2) Historic Property Recordation:

WSDOT will consult with the SHPO regarding appropriate large-format photo documentation to consistent with OAHP Level 2 standards of historic properties, 700120th Street East, 6803 20th Street East, and 7717 Valley Avenue East, in the project's area of potential effect.

- 3) NRHP-eligible buildings as described in 2, above, will be offered for sale for a minimum of one year to any buyers willing to move the structures.

- 4) The project will have no adverse effect upon prehistoric site 45PI488, contingent upon WSDOT:

- (a) Spanning the site with a bridge whose piers are constructed outside the known boundaries of the site; and

- (b) Monitoring construction for cultural resources in the vicinity. Should cultural resources or human remains be discovered during bridge construction, procedures will be followed per below (items 5 and 6).

- 5) Review of Effects Determination:

Because design has yet to be finalized and because construction may not occur for some time, during final design and prior to construction of the undertaking, FHWA will review the eligibility determinations to:

- a) Determine if eligible properties retain the qualities that make them eligible for the National Register of Historic Places; and
 - b) Determine if non-eligible properties obtained qualities that would make them eligible for the National Register of Historic Places (i.e. greater than 50 years old).

- 6) Amendment of the Agreement:

If any of the signatories to this Agreement determine that the terms of the Agreement cannot be met or believe a change is necessary, that signatory will immediately request

the signatory parties to consider an amendment or addendum which will be executed in the same manner as the original Agreement. A copy of the amended Agreement will be filed with the ACHP, pursuant to 36 CFR 800.6(c)(7).

7) Dispute Resolution:

- a) If a dispute arises regarding implementation of this Agreement, the signatory parties will consult with the objecting party to resolve the dispute. If FHWA determines that the dispute cannot be resolved, FHWA shall forward all documentation relevant to the dispute to the ACHP and request comment, which will be provided pursuant to 36 CFR 800.6(b).
- b) If at any time during implementation of the measures stipulated in this Agreement, should an objection to any such measure or its manner of implementation be raised by a member of the public, the FHWA shall take the objection into account and consult as needed with the objecting party, the SHPO, or the ACHP to resolve the objection.

8) Failure to Carry Out Terms:

Failure to carry out the terms of this Agreement requires that FHWA again request the ACHP's comments in accordance with 36 CFR Part 800.7. If FHWA cannot carry out the terms of the Agreement: (i) it will not take or sanction any action to make an irreversible commitment that would result in an adverse effect with respect to the eligible property covered by the Agreement; (ii) nor will FHWA foreclose the ACHP's consideration of modifications or alternatives that could avoid or mitigate the adverse effect on the property until the commenting process has been completed.

9) Duration & Termination:

This MOA will take effect immediately upon execution by the Signatory Parties. The terms of this MOA shall be satisfactorily fulfilled within ten years following the date of execution. Prior to such time, FHWA may consult with the other signatories to reconsider the terms of the agreement and propose its amendment. Unless terminated, this MOA will be in effect until FHWA, in consultation with SHPO, COE, WSDOT, and the Tribe, determines that all of its terms have been satisfactorily fulfilled within ten years.

In accordance with 36 CFR 800.6(c)(8), if any of the Signatory Parties determines that the terms of the MOA cannot or are not being carried out, they may consult to seek an amendment of the Agreement. If the Agreement is not amended, any Signatory may terminate this MOA. If either FHWA, COE, or the SHPO proposes to terminate this MOA, the terminating party shall promptly notify all other parties in writing of the proposed termination and shall include in its notification the reasons for proposing termination. If the MOA is terminated pursuant to this stipulation and FHWA determines that its undertaking will nonetheless proceed, FHWA shall request the comments of the ACHP.

11) Monitoring and Reporting:

Within 90 Days after carrying out the terms of the Agreement, as described in Stipulations 1 through 4, the WSDOT shall report to all signatories on the actions taken.

This Memorandum of Agreement by the FHWA and the Washington SHPO, shall not be executed until filed with the ACHP, evidence that the FHWA has afforded

the ACHP an opportunity to comment on the SR 167 Puyallup to SR 509 Highway Project and its effects on historic properties. Implementation of its terms is evidence that the FHWA has taken into account its effects on historic properties and has satisfied the requirements of Section 106 of the National Historic Preservation Act (16 U.S.C. 470(f)).

SIGNATORIES

Federal Highway Administration

By: _____
Daniel Mathis
Division Administrator

Date: _____

Washington State Historic Preservation Office

By: _____
Allyson Brooks, Ph.D.
State Historic Preservation Officer

Date: _____

INVITED SIGNATORY PARTIES

Washington State Department of Transportation

By: _____
Tom Whitney
Acting Region Environmental & Hydraulic Manager
Olympic Region

Date: _____

The Puyallup Tribe of Indians

By: _____
Herman Dillon, Sr.
Puyallup Tribal Council Chair

Date: _____

US Army Corps of Engineers

By: _____
COE Debra Lewis
District Engineer

Date: _____

Attachments:

- 1) SR 167 Vicinity Map

**Appendix B: Letter, City of Puyallup, Concerning Riverfront Trail
Draft 4(f) Evaluation
SR 167 Puyallup to SR 509**

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CITY OF PUYALLUP

Development Services Department

218 West Pioneer
Puyallup, WA 98371
253.841.5444 Voice/ 253.840.8878 Fax
strove@ci.puyallup.wa.us

RECEIVED
MAY 18 2004
OLYMPIC REGION

May 14, 2004

Jeff Sawyer
Olympic Region Headquarters
Washington State Dept. of Transportation
P.O. Box 47440
Olympia, WA 98504-7440

Re: SR 167 Tier II EIS, Puyallup to SR 509

This week, I met with Michelle Eiling, Lene Moody, and Darryl Tinnerstedt to discuss this project and its potential impacts on publicly-owned facilities within the City of Puyallup. This meeting partially in response to your inquiry of February 23 regarding identified facilities and whether 6(f) monies were used for their purchase: 1) Puyallup Recreation Center; 2) Puyallup River Levee Trail; 3) Malone Marker; and 4) North Levee Trail (planned).

No 6(f) funds were used to purchase any of these facilities. It should also be noted that the City does not have any plans to construct a "North Levee Trail;" all our efforts are focused on completing the Riverfront Trail (Puyallup River Levee Trail) on the south side of the river. We are unaware if the City of Fife and Pierce County are planning to construct such a trail to the west of the city limits.

It was my understanding that reconstruction of the Meridian bridge across the Puyallup River could result in temporary closure of this portion of the Riverfront Trail. The City is committed to working cooperatively with WSDOT in identifying an acceptable interim route for the trail during the course of construction.

We hope to begin construction of the western extension of the Riverfront Trail later this year, with the eastern leg possibly being constructed in 2005/2006.

Please feel free to contact me with any further questions.


Steve Pichner
Planning Manager

cc: Tom Heinecke, Administrator

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STATE OF WASHINGTON

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343
(360) 586-3065 • Fax Number (360) 586-3067 • Website: www.dahp.wa.gov

October 8, 2012

Mr. Roger Kiers
Cultural Resources Specialist
WSDOT, Olympic Region
P.O. Box 47332
Olympia, WA 98512-7332

In future correspondence please refer to:
Log: 042803-07-WSDOT
Property: SR 167, PUYALLUP TO SR 509
Re: ADVERSE Effect

Dear Mr. Kiers:

Thank you for contacting the Department of Archaeology and Historic Preservation (DAHP). We have reviewed the materials you provided for this project. We concur with the undertaking's revised Area of Potential Effects. We also concur with your determination that the project, as proposed, will have an Adverse Effect on the Meridian Street Bridge which is eligible for listing on the National Register of Historic Places.

We look forward to further consultation and the revision of the Memorandum of Agreement (MOA) to address this Adverse Effect, and inclusion of programmatic elements to insure cultural resources identification and evaluation work is completed as the project moves forward.

We would appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4) and the survey report when it is available. These comments are based on the information available at the time of this review and on behalf of the State Historic Preservation Officer pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations 36CFR800.

Thank you for the opportunity to review and comment.

Sincerely,

A handwritten signature in blue ink that reads "Lance Wollwage".

Lance Wollwage, Ph.D.
Transportation Archaeologist
(360) 586-3536
lance.wollwage@dahp.wa.gov



DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

Preserving the Past, Inspiring the Future



**Washington State
Department of Transportation**
Paula J. Hammond, P.E.
Secretary of Transportation

Transportation Building
310 Maple Park Avenue S
Olympia, WA 98504-7500
360-725-7000
TTY: 1-800-833-6388
www.wa.gov

August 28, 2012

Allyson Brooks, Ph.D.
State Historic Preservation Officer
Department of Archaeology & Historic Preservation
PO Box 48343
Olympia, WA 98504-8343

RE: State Route 167 Extension – Puyallup to SR 509 Freeway Construction Project,
Puyallup River (Meridian Street) Bridge Phase
Cultural Resources Survey and Determination of Adverse Effect

Dear Dr Brooks:

The Washington State Department of Transportation (WSDOT), in cooperation with the Federal Highway Administration (FHWA), is continuing to develop the subject undertaking to address an identified transportation need in Pierce County. In order to ensure that we take into account the effects of this undertaking on properties listed in or eligible for listing in the National Register of Historic Places, WSDOT is continuing formal Section 106 consultation pursuant to 36 CFR 800.2(c)(4).

First, we would like to clarify the scope of our ongoing Section 106 consultation for this federal aid highway project, specifically as it relates to how the currently proposed bridge replacement is associated with the larger State Route (SR) 167 corridor extension project. The SR 167 corridor extension project underwent National Environmental Policy Act (NEPA) and Section 106 review between 1991 and 2006¹. The resulting NEPA review documented Section 106 consultation culminating in execution of a Memorandum of Agreement (MOA). While the corridor extension project had always proposed replacement of the Meridian Street Bridge, it was not deemed eligible for the National Register at the time of the 2006 Final Environmental Impact Statement and Section 106 consultation. Funding for an interim phase of the corridor extension project was dedicated by the 2011 legislature to address structural deficiency found to exist with the Meridian Street Bridge. Through a December 20, 2011 letter, WSDOT initiated ongoing consultation on a slightly refined APE for this funded phase of the SR 167 corridor extension project.

Environmental documentation for the SR 167 corridor extension project identified and addressed the need to reconstruct the Puyallup River crossings including removal of the Meridian Street Bridge. The ultimate solution will require a new 4-lane bridge to replace the 2-lane northbound bridge. The bridge location is constrained by the fully developed surrounding environment, the adjacent two-lane southbound bridge, and close proximity of the future SR 167/SR 161 interchange that will be a part of the expansion of the SR 167 Freeway. Proceeding with this phase of the corridor extension project now requires updating the existing NEPA and Section 106 documentation to address the changed condition, which is the recently determined National Register eligibility of the Meridian

¹ State Route 167, Puyallup to SR 509 Tier II Final EIS – FHWA/WSDOT November 2006

~~W. August Brown~~
~~August 28, 2010~~
~~Page 1~~

Street Bridge. In addition, due to the passage of time and in accordance with Stipulation VII.E of the *Second Amended Programmatic Agreement Implementing Section 106 of the National Historic Preservation Act for the Federal-aid Highway Program in Washington State Administered by the Federal Highway Administration*, WSDOT is re-evaluating the previous cultural resources investigations and reports used to support the Section 106 review process. The intent of this re-evaluation process is to evaluate the undertaking in (or near) its final design. At this time, only the Meridian Street Bridge phase of the SR 167 corridor extension has received full design and construction funding and advanced to a point where WSDOT is prepared to re-evaluate and supplement the cultural resources documentation.

The proposal to address the structurally deficient Meridian Street Bridge is not an independent action with a discrete APE and Section 106 consultation, but rather is a phase of the overall SR 167 corridor extension. Since the corridor project was still in the early design stages during the Tier 2 EIS process, the previous cultural resources studies and the 2006 MOA used a corridor approach to define the APE. As agreed to in the MOA, stipulation 5 (Review of Effects Determination), FHWA is reviewing the changes to the APE as the final bridge design is funded for construction. WSDOT originally defined the APE for the larger SR 167 corridor extension project to include an area of direct effects within a 200 foot offset on either side of the new highway centerline established in the EIS process, as well as any additional right-of-way required for actual construction including interchanges, stormwater facilities, and mitigation sites. The vertical extent of this area of potential direct effects was considered to be three feet. The APE also included an additional 200 foot offset, extending 400 feet from either side of the centerline, to account for potential indirect visual or audible effects.

The APE defined for the SR 167 corridor extension project did not encompass the entire area that will be affected by the replacement of the Meridian Street Bridge. WSDOT therefore revised the horizontal and vertical APE (within the footprint of the bridge replacement phase of the project) to include all areas where ground-disturbing activities associated with the new bridge will occur. The revised APE also includes the area within which the historic bridge and adjacent historic structures may be directly or indirectly affected by the project. Bridge replacement project work will include bridge piers, abutments, roadway approaches, bridge superstructure, and some grading and re-vegetation. It also includes improvements to the stormwater system, which, on the west side of SR 167 north of the river, will be completely replaced, including construction of a stormwater swale, where the depth of excavation will be up to four feet. At the locations of the new bridge abutments, which will require deep excavation, the vertical APE has been defined as 100 feet.

The enclosed report supplements the cultural resources survey previously completed for the SR 167 Extension Project between 2000 and 2004 by Archaeological and Historical Services (AHS). The current effort included drilling of sonic boreholes where deep excavation will be required for the new bridge abutments, excavation of shovel probes within an area of proposed stormwater improvements, and an inventory and (re)evaluation of historic structures within the area that will be affected by the Meridian Street Bridge phase of the SR 167 corridor project.

No archaeological resources were identified within the Meridian Street Bridge project area. Five historic structures were inventoried and (re)evaluated, one of which (the Meridian Street Bridge) is eligible for listing in the NRHP. Evaluation of project alternatives indicates that adverse effects to the Meridian Street Bridge are unavoidable.

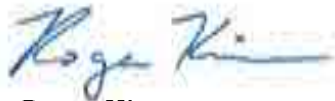
Dr. Roger Kiers
August 28, 2012
Page 7

To date, WSDOT and FHWA have convened two meetings (March 26 and June 20, 2012) with consulting parties as we seek ways to avoid, minimize and mitigate adverse effects to the Meridian Street Bridge. We will continue Section 106 consultation to resolve these adverse effects.

Per the existing Project MOA, which will be amended to resolve adverse effects to the Meridian Street Bridge, and per Stipulation VII.E of the *Second Amended Programmatic Agreement Implementing Section 106 of the National Historic Preservation Act for the Federal-aid Highway Program in Washington State Administered by the Federal Highway Administration*, the SR 167 corridor APE will be reviewed and refined as necessary when future phases are funded. In order to provide a preliminary assessment of the larger APE, WSDOT has prepared the enclosed figures showing the SR 167 corridor APE surveyed by AHS between 2000 and 2004 as it relates to the latest proposed alignment of SR 167. For comparison, the 200-foot and 400-foot offsets surveyed by AHS have been overlaid on 200-foot and 400-foot offsets from the current proposed centerline. It is evident that the AHS survey did not encompass the entire alignment as it is currently proposed. In addition, wetland mitigation areas are yet to be defined. As stated above, the discrepancies in the previous cultural resources survey will be addressed when additional funding is acquired and design has proceeded to a point where we are able to accurately and correctly characterize and evaluate the undertaking's potential effects on historic properties.

We invite your review of the enclosed report and request your concurrence with our determination of adverse effect for the project, due to the anticipated effects to the Meridian Street Bridge. If you have questions or comments regarding the proposed project, you may contact me by phone at 360-570-6638, or by email at kiersro@wsdot.wa.gov.

Sincerely,



Roger Kiers
WSDOT Archaeologist

Enclosures: Cultural Resources Program Report No. 12-10 (PDF on CD)
SR 167 Corridor APE Plan Sheets

cc: Jeff Sawyer, WSDOT Olympic Region EHS
Brenden Clarke, Project Engineer, WSDOT SR 167 Puyallup River Bridge Project
Dean Moberg, Area Engineer, FHWA
Alisa Ralph, Regulatory Branch Section Chief, USACE

Cultural Resources Discipline Report

**State Route 167 Puyallup River/Meridian Street Bridge Phase,
SR 167 Extension – Puyallup to SR 509 Freeway Construction
Project, Pierce County, Washington**

Cultural Resources Program Report No. 12-10



Roger Kiers, M.A.
Craig Holstine, M.A.

August 2, 2012



Washington State
Department of Transportation

Environmental Services Office
PO Box 47332
Olympia, WA 98504-7332

Executive Summary

The Washington State Department of Transportation (WSDOT) is proposing the State Route (SR) 167 Puyallup River/Meridian Street Bridge Project to construct a new two-lane, three-span bridge across the Puyallup River on State Route (SR) 167 and to take the existing Meridian Street Bridge out of service. The project is located in the City of Puyallup, Pierce County, in Township 20 North, Range 4 East, Sections 21 and 22.

This bridge project is a recently-funded phase of a larger undertaking – the SR 167 Extension – Puyallup to SR 509 Freeway Construction Project – which is an unfunded corridor project that will extend SR 167 between SR 161 in Edgewood and SR 509 in Tacoma. The northbound lanes of SR 167 currently cross the Puyallup River on the existing Meridian Street Bridge (Bridge No. 167/20E), which is a structurally deficient steel truss bridge built in 1925 and modified in 1951. The bridge was added to the *P2 Program Bridge Replacement List* funded in the 2011-2013 biennium and the Legislature subsequently mandated that this project use the Design-Build process for project delivery. A new two-lane, three-span bridge over the Puyallup River is proposed downstream of the current crossing. Approaches and new alignments will also be constructed to tie into the existing highway. Project work will include bridge piers, abutments, roadway approaches, bridge superstructure, and improvements to the stormwater system.

As part of the SR 167 Extension – Puyallup to SR 509 Project documentation completed in 2000, the existing Meridian Street Bridge was determined not eligible for listing in the National Register of Historic Places (NRHP). However, recent reevaluation has indicated that the bridge is eligible for the NRHP under Criterion C. In addition to documenting and evaluating the Meridian Street Bridge, the current report supplements the cultural resources survey previously completed for the SR 167 Extension Project between 2000 and 2004 by Archaeological and Historical Services (AHS) (Luttrell 2004), in order to assist the Federal Highway Administration (FHWA) and WSDOT in compliance with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA). The current effort included drilling of sonic boreholes where deep excavation will be required for the new bridge abutments, excavation of shovel probes within an area of proposed stormwater improvements, and an inventory of additional historic structures within the Meridian Street Bridge Area of Potential Effects.

No archaeological resources were identified within the Meridian Street Bridge project area. Of the historic cultural resources recorded within the project area, only the Meridian Street Bridge is eligible for listing in the NRHP. WSDOT and FHWA will continue Section 106 consultation and seek ways to avoid, minimize, or mitigate adverse effects to the Meridian Street Bridge.

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Project Description and Location

The Washington State Department of Transportation (WSDOT) is proposing the State Route (SR) 167 Puyallup River/Meridian Street Bridge Project to construct a new two-lane, three-span bridge across the Puyallup River on State Route (SR) 167 and to take the existing Meridian Street Bridge out of service. The project is located in the City of Puyallup, Pierce County, in Township 20 North, Range 4 East, Sections 21 and 22 (Figure 1).

This bridge project is a recently-funded phase of a larger undertaking – the SR 167 Extension – Puyallup to SR 509 Freeway Construction Project – which is an unfunded corridor project that will extend SR 167 between SR 161 in Edgewood and SR 509 in Tacoma. The northbound lanes of SR 167 currently cross the Puyallup River on the existing Meridian Street Bridge (Bridge No. 167/20E), which is a structurally deficient steel truss bridge built in 1925 and modified in 1951. In 2011, WSDOT implemented a load restriction requiring vehicles larger than 10,000 pounds to use the right lane only, due to floor beam deterioration that was detected during a routine bridge inspection. The bridge was added to the *P2 Program Bridge Replacement List* funded in the 2011-2013 biennium and the Legislature subsequently mandated that this project use the Design-Build process for project delivery. The goal of this project is to provide bridges and a roadway profile compatible with the larger SR 167 Extension – Puyallup to SR 509 undertaking, which is currently in the preliminary engineering stage and for which new right-of-way has been acquired.

The new two-lane, three-span bridge over the Puyallup River will have abutments on both banks and a pier in the river. Approaches and new alignments will also be constructed to tie into the existing highway. The new bridge will require a higher profile than the existing roadway to provide adequate clearance over frontage roads on both sides of the Puyallup River. Retaining wall construction will be included to minimize right-of-way impacts. Project work will include bridge piers, abutments, roadway approaches, bridge superstructure, and some grading and re-vegetation. It also includes improvements to the stormwater system, which, on the west side of SR 167 north of the river, will be completely replaced, including construction of a stormwater retention pond.

Project History

The Federal Highway Administration (FHWA) approved the Tier I Environmental Impact Statement (EIS) for the larger SR 167 Puyallup to SR 509 undertaking, identifying a preferred route, in 1999. WSDOT began further study of the selected corridor in spring of 1999 with the Tier II EIS, and FHWA published the Tier II Final EIS, outlining plans to avoid or lessen the undertaking's potential environmental impacts, in December 2006. FHWA approved the Tier II FEIS by signing the Record of Decision in October 2007, completing the environmental documentation process and allowing WSDOT to proceed with advanced engineering and design work. Right-of-way acquisition and engineering have proceeded as funding allowed, but construction funding has not yet been identified.



Figure 1. Project area vicinity, on USGS 7.5' Puyallup Quadrangle.

The delivery strategy identified in the SR 167 – Puyallup to SR 509 EIS was to replace the steel truss Puyallup River Bridge with a new five-lane structure and to perform a seismic retrofit and a small taper widening to the existing 1971 concrete bridge. This was to be done by utilizing a detour structure to shift northbound traffic off of the steel truss, and far enough to the east to allow a five-lane structure to be constructed. The next step was to remove the steel truss and construct the new five-lane structure. Northbound traffic would then be shifted onto the new five-lane bridge, and the temporary detour structure would be removed. The final stage was to be seismic retrofit of the existing concrete bridge and a taper widening of the north end to match into the new SR 161/167 Interchange. This configuration of five northbound lanes across the Puyallup River is necessary to accommodate anticipated traffic and attendant lane-changing in the relatively short distance between the Puyallup River and the new SR 161/167 Interchange to the north.

Since the EIS was completed, seismic standards have been revised to render retrofitting of the 1971 concrete bridge economically unfeasible. In addition, as part of the SR 167 Extension – Puyallup to SR 509 Project documentation completed in 2000, the existing Meridian Street Bridge was determined not eligible for listing in the National Register of Historic Places (NRHP). However, subsequent reevaluation indicated that the bridge is eligible for the NRHP.

In addition to documenting and evaluating the Meridian Street Bridge, the current report supplements the cultural resources survey previously completed for the SR 167 Extension Project between 2000 and 2004 by Archaeological and Historical Services (AHS) (Luttrell 2004). Particular attention is given to areas where deep excavation will be required for the Puyallup River Bridge project.

Regulatory Context

The objective of this inventory is to assist FHWA and WSDOT in compliance with NEPA and Section 106 of the NHPA of 1966, as amended, and its implementing regulation (36 CFR 800). The NHPA requires that federal agencies identify and assess the effects of federally assisted undertakings on historic properties, and consult with others to find acceptable ways to avoid, minimize, or mitigate adverse effects.

This inventory seeks to identify archaeological and historic resources within the project area of potential effects (APE), assess any identified resources for eligibility to the National Register of Historic Places, and recommend any additional measures for further characterization or evaluation of cultural resources within the APE.

Area of Potential Effects (APE)

WSDOT defined the Area of Potential Effects for the larger SR 167 Extension, Puyallup to SR 509 Project to include an area of direct effects within a 200 foot offset on either side of the new highway centerline established in the EIS process, as well as any additional right-of-way required for actual construction including interchanges, stormwater facilities, and mitigation sites. The vertical extent of this area of potential direct effects was considered to be three feet. The APE also included an additional 200 foot offset, extending 400 feet from either side of the centerline, to account for potential indirect visual or audible effects.

The APE defined for the SR 167, Puyallup to SR 509 Project did not encompass the entire area that will be affected by the replacement of the Meridian Street Bridge. WSDOT has therefore revised the horizontal and vertical APE to include all areas where ground-disturbing activities associated with the new bridge will occur as shown on Figure 2. The APE also includes the area within which the historic bridge and adjacent historic structures may be directly or indirectly affected by the project. Project work will include bridge piers, abutments, roadway approaches, bridge superstructure, and some grading and re-vegetation. It also includes improvements to the stormwater system, which, on the west side of SR 167 north of the river, will be completely replaced, including construction of a stormwater retention pond, where the depth of excavation will be up to four feet. At the locations of the new bridge abutments, which will require deep excavation, the vertical APE has been considered as 100 feet, based on the anticipated depth of the Osceola Mudflow and subsequent alluvial deposition. Only the Puyallup River Bridge project area is the subject of the current report; any outstanding areas of the larger SR 167 APE requiring Section 106 review or reevaluation will be addressed during future project phases.

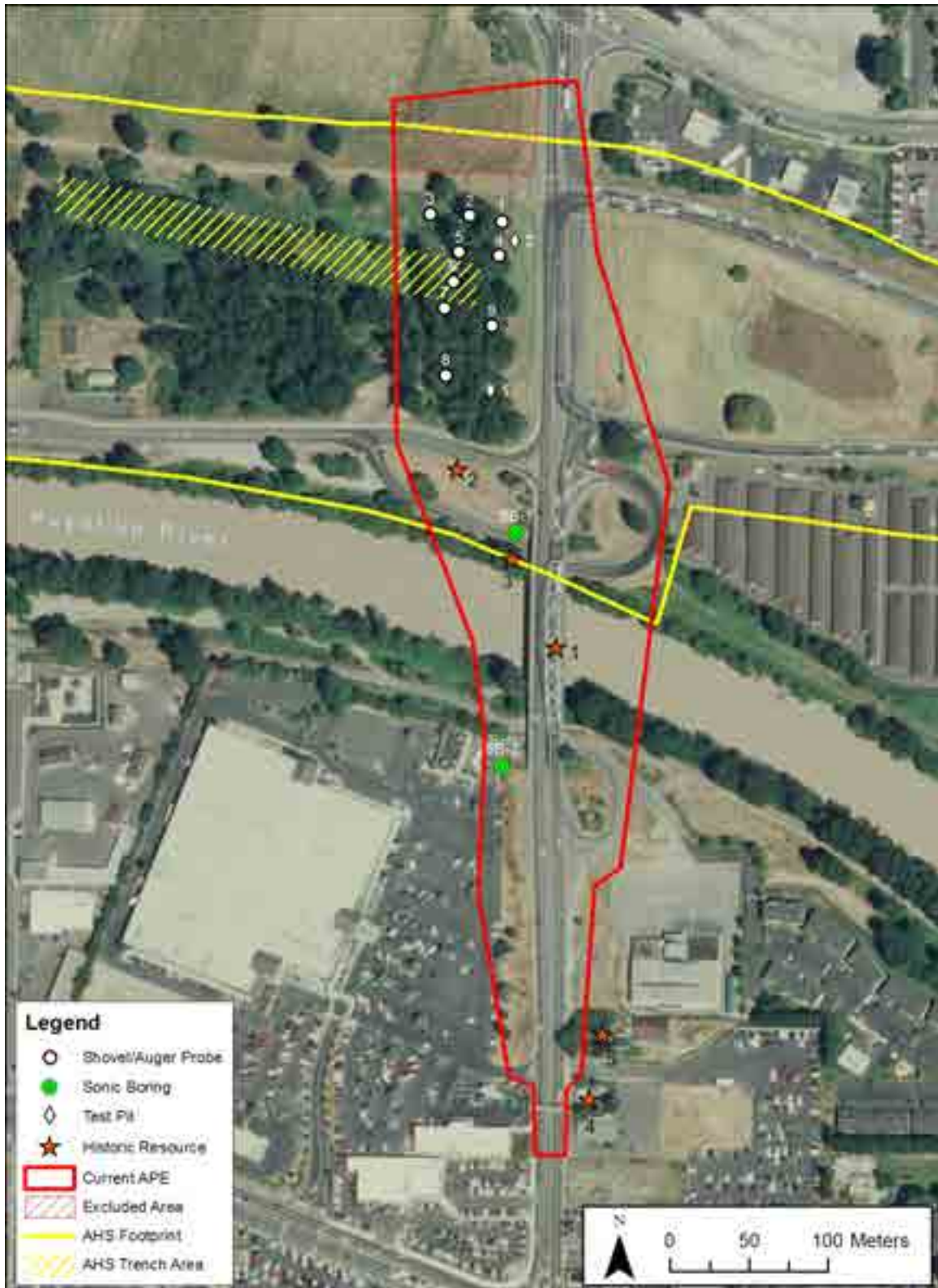


Figure 2. Area of Potential Effects, showing locations of previous survey work by AHS, and survey locations included within the present study.

NRHP Eligibility Criteria

The National Historic Preservation Act requires federal agencies to identify and consider the effects of federally assisted projects on historic properties. Historic properties generally must be at least 50 years old and meet at least one of four criteria of significance. According to the National Register of Historic Places (NRHP) Criteria for Evaluation:

“The quality of significance in American history, architecture, archeology, engineering and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. That are associated with the lives of significant persons in our past; or
- C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. That have yielded or may be likely to yield, information important in history or prehistory (NRHP).”

Amendments to Section 101 of the NHPA in 1992 allowed inclusion of eligible properties of traditional cultural or religious importance to the National Register.

Consultation

WSDOT, on behalf of FHWA, consults with the Washington State Historic Preservation Officer (SHPO) and the appropriate Native American Tribes who may have an interest in the project area, pursuant to the *First Amended Programmatic Agreement Implementing Section 106 of the National Historic Preservation Act for the Federal-aid Highway Program in Washington State Administered by the Federal Highway Administration*. In January 2012, WSDOT initiated consultation with the Muckleshoot Indian Tribe, Puyallup Tribe, Squaxin Island Tribe, and Yakama Nation. The Squaxin Island Tribe responded and deferred further consultation to the Puyallup Tribe. The Puyallup Tribal Archaeologist visited the project area during the sonic borehole fieldwork.

WSDOT also initiated Section 106 consultation with local governments and a number of individuals and organizations considered likely to have an interest in the undertaking due to potential effects to the Meridian Street Bridge. To date, WSDOT has convened two consulting party meetings, on March 26 and June 20, 2012. Section 106 consultation will continue as FHWA and WSDOT seek ways to avoid, minimize, or mitigate adverse effects to the Meridian Street Bridge that could result from the project.

Study Methodology

Records Review

Background research completed for this study included a review of available literature on the natural and cultural history of the project area, including previous survey reports on file at DAHP, with a focus on reports completed since the 2004 AHS report. Project records, including field notes, were obtained from AHS for this study, providing specific details about the methods and results of the AHS survey not included in their 2004 report.

Other archival sources included the Washington State Library, the library of the WSDOT Cultural Resources Program, the Washington Department of Archaeology and Historic Preservation (DAHP) WISAARD database, Bureau of Land Management Land Status and Cadastral Records Viewer, Puget Sound River History Project, University of Washington Library, and Pierce County Assessor's Office.

Field Methods

Archaeological fieldwork was conducted by WSDOT Archaeologist Roger Kiers, who meets the Secretary of Interior Standards for Archaeology, with assistance from WSDOT Cultural Resources Specialist Erin Littauer. WSDOT Historian Craig Holstine conducted the built environment survey.

Sonicore

Deep excavation will be required for construction of the new bridge abutments. The valley floor in the project area is covered by thick Holocene alluvium and lahar deposits, and archaeological materials could potentially be buried at significant depths. Two sonic borings were drilled to test these deep deposits on both the north and south sides of the Puyallup River. The sonic drilling method used a rapidly oscillating drill head to advance an 8-inch diameter core barrel. The resulting core sample was extruded incrementally from the core barrel into plastic sleeves. Coring started at the surface and advanced in increments of 5 or 10 feet, reaching depths of 100 feet.

The cores were examined, described, and assessed for their potential to contain intact cultural resources. Cores were stored in wooden boxes and transported to the WSDOT Materials Laboratory for further analysis. Samples considered to have the potential to contain cultural materials were selected for screening through 1/4-inch mesh hardware cloth. Sonic boring was completed by Boart Longyear using a track-mounted sonic drill, and was inspected by the WSDOT Archaeologist.

Shovel probing

Shovel/auger probes were excavated within previously unsurveyed, or inadequately surveyed, portions of the APE considered to have potential for intact archaeological deposits. Probing focused on the northwest quadrant of the APE, north of Levee Road and west of Meridian, in the area of the proposed stormwater improvements. Shovel probes measured approximately 40-cm in diameter at the ground surface and, when possible, their depth was extended through the use of an 8-inch-diameter auger. All sediments were screened through 1/4-inch mesh hardware cloth. A portion of the

northernmost end of the APE was excluded from the survey based on indications from the project office that no work was planned in that area (Figure 2).

Subsequent to the shovel probing, two backhoe test pits were excavated by WSDOT for geotechnical purposes. Both were monitored by the WSDOT Archaeologist and visually inspected for evidence of buried cultural resources.

Affected Environment

Natural Setting

The project area is located in the Puyallup River valley within a geographic province known as the Puget Trough, a valley system that extends from the Puget Sound south through the Willamette Valley, and which separates the Olympic Mountains from the Western Cascades (Franklin and Dyrness 1973). The headwaters of the Puyallup River are on Mount Rainier, and the modern delta reaches west to Commencement Bay in Tacoma.

The Puget Sound Lowland generally lacks bedrock exposures due to a thick blanket of sediments removed and deposited with the advance and retreat of the continental ice sheets that played a major role in carving out the landscape. During the most recent glacial advance, the Puget Lobe of the Cordilleran Ice Sheet expanded southward from southwestern British Columbia into the Puget Lowland. As the advancing glacier blocked northward-flowing streams, valleys were dammed, causing the formation of proglacial lakes and depositing outwash beyond the advancing glacier, and eroding subglacial channels into the drift plain (Booth 1994). As the ice sheet began to retreat at the end of the Pleistocene, meltwater drained into the lowland, creating locally broad plains of recessional outwash, proglacial lakes, and eventually incursion of marine waters through the Strait of Juan de Fuca. The glacial troughs of the lower Puyallup River and Duwamish valleys became marine embayments.

For much of the Holocene, the lower Puyallup River valley below Sumner remained an embayment of Puget Sound. Mid- to late Holocene alluvial sand, silt, and gravel have filled the former embayment with significant sediment input from lahars originating on Mount Rainier (Palmer 1997). Prior to the Osceola Mudflow approximately 5,600 years ago, the ancient Puyallup River entered the former Puyallup Embayment near the present day City of Puyallup (Dragovich et al. 1994:15; Vallance and Scott 1997). The Osceola Mudflow, or lahar, originated on Mount Rainier and flowed down the White River drainage into the Green and Puyallup drainages, blanketing a 195 square mile area with as much as 100 feet of muddy sand, gravel, cobbles, and boulders (Dragovich et al. 1994:3). Dragovich and others (1994) have reconstructed the pre-Osceola topography of the Puyallup and Duwamish valleys using the base of the Osceola Mudflow interpreted from geotechnical borings and water well logs. The pre-Osceola Puyallup delta platform appears to be at an elevation of roughly -40 ft. (present) mean sea level (MSL) near the City of Puyallup. Since that time, the Puyallup River valley has infilled from delta progradation as mudflow deposits (and other Mount Rainier source materials, including

post-Osceola lahars) have been eroded and redeposited downstream, leaving deltaic and floodplain silts and sands overlying the Osceola deposit.

Mapped soils in the project area consist predominantly of Briscot loam in the northern portion of the APE, Pilchuck fine sand near the Puyallup River channel, and fill in the southern portion of the APE (Zulauf 1979). Briscot loam formed in alluvium under hardwoods and conifers. In a typical profile the surface layer is dark brown loam about 11 inches thick. The underlying material, to a depth of 29 inches is mottled, dark grayish brown fine sandy loam and silt loam; between depths of 29 and more than 60 inches, it is mottled, very dark grayish brown sand and gray silty clay loam. Pilchuck fine sand formed in mixed alluvium under hardwoods and conifers. In a typical profile the surface layer is very dark brown fine sand about 7 inches thick. The underlying material to a depth of 36 inches is very dark brown fine sand, and very dark brown very gravelly sand to a depth of 60 inches or more (Zulauf 1979).

Cultural Setting

Human occupation of the region followed the retreat of the glaciers during the terminal Pleistocene and occurred as early as 13,800 years ago at the Manis Site on the northern Olympic Peninsula, where evidence indicates that humans were hunting megafauna with bone projectile points (Waters et al. 2011). Following this earliest period of occupation, the precontact material culture of the area has been generally described as an early adaptation of inland technologies such as Fluted Point and Stemmed Point traditions of the interior and a subsequent assimilation, transition and development to later coastal-adapted technologies focused upon marine, littoral, riverine, and inland resources (Ames and Maschner 1999). The primary economic resource base was dominated by salmon and supplemented by marine fish, mammals, riverine resources, and vegetable foods (Suttles and Lane 1990). The regional adaptation to coastal and riverine resources allowed for the cultural evolution of the distinctive, though internally variable, Northwest Coast culture pattern of complex sedentary hunter-gatherers with intensive winter villages and extensive seasonal dispersal (Ames 1994; Ames and Maschner 1999).

The project area lies within the traditional territory of the Southern Coast Salish, which refers to speakers of two Coast Salish languages, Lushootseed and Twana, who lived on and around Puget Sound and its drainages (Suttles and Lane 1990:485). Southern Coast Salish bands shared many ethnographically-described practices in common with other coastal groups. Communities congregated at winter villages, which were the primary economic and social units. During the spring, summer, and fall, smaller groups of villagers dispersed across a wide territory to gather food, and to prepare surpluses for winter use.

Within the broader Southern Coast Salish designation, the Southern Lushootseed-speaking Puyallup are directly associated with the area surrounding the Puyallup River. Puyallup villages were typically located along creeks and rivers away from shores of Puget Sound (Smith 1940:9). Villages near the project area included *tsaqwéqwabc*, where Clarks Creek emptied into the Puyallup River, approximately 2.4 miles downstream of the project area, and *stáxabc* located where the Stuck River enters the Puyallup,

approximately 1.7 miles east of the project area (Smith 1940:10). Another village was located along Wapato Creek, *sq'wádabc*, to the northwest of the project area (Smith 1940:10). T. T. Waterman recorded other named places in the project vicinity, including *Sti'lagwats*, meaning “where wild strawberries grow,” for the site of the town of Puyallup, and *SExuba'lt'*, meaning “dance house,” referring to certain religious performances held there, for the site of the town of Meeker (Waterman 2001:250). The town of Meeker was located due east of Puyallup, centered approximately 1.3 miles southeast of the current project.

Epidemic disease, economic stress, and social disruption among the Southern Coast Salish followed the first contact and interaction with Europeans in the late 18th century (Boyd 1990; Cole and Darling 1990). With the establishment of Washington Territory in 1853 and increasing numbers of white settlers, the federal government soon desired to negotiate treaties with the Indians in the territory in order to persuade them to transfer their lands and move onto reservations. The signing of the Treaty of Medicine Creek in 1854 created the Puyallup, Nisqually and Squaxin Reservations.

The first Euroamerican settlers came to the Puyallup vicinity by wagon train, crossing over the Cascades on the Naches Pass Trail, in October of 1853. Among the early settlers in the Puyallup vicinity was John Carson, who claimed property on the north bank of the Puyallup River including land within the current project APE. Carson's 316 acres were bisected by a crude road, and Carson operated a ferry across the Puyallup River near today's Meridian Street Bridge (Bonney 1927). During Indian uprisings in 1855, Carson's family and other local settlers fled to Fort Steilacoom. A military blockhouse known as Fort Maloney was constructed in 1856 on the south bank of the Puyallup River to guard the ferry crossing. After the settling of the Indian War in 1856, Carson and his neighbors slowly returned the Puyallup area and resumed development. Fort Maloney was occupied by the Carson family upon their return, becoming known as Fort Carson. Mrs. Carson taught school there in 1861 (Bonney 1926), and a post office was established there in 1862 (Price and Anderson 2002:26). Today, a lone chestnut tree stands on the former Carson claim near a SR 167 entry ramp, just outside the project APE, reportedly the sole remnant of an orchard planted by John Carson as early as the 1850s (Luttrell 2004).

Carson's ferry eventually became inoperative, and he constructed a wooden toll bridge across the river in 1858 (Bonney 1926). By that time, the road past Carson's place and over his bridge had become a military road connecting Steilacoom and Bellingham, and the state's first telegraph line was strung over this road (ibid.). The bridge was washed out by flooding during the winter of 1862-1863, but Carson continued to operate a ferry at the crossing.

Another early settler to the area, James P. Stewart, claimed property near the Carson claim on the opposite (south) bank of the Puyallup River in 1859. In 1862, J. P. Stewart donated land for a school building that replaced Fort Carson (Price and Anderson 2002:28). Settlers who followed included John Meeker, the brother of Ezra Meeker, who arrived with his family in 1859 and claimed property adjoining the Stewart homestead.

Several years later in 1862, Ezra Meeker, who is credited as being the founder of Puyallup, joined his brother in the valley. Meeker and others went on to prosper during the hop boom of the 1880s.

Historically, the Puyallup area has been subject to extensive flooding. During one particular flood event, Stewart spent a perilous night in the riverbank schoolhouse and had to be rescued by Carson the next morning (Price and Anderson 2002:44). Stewart later approached Carson about digging a ditch across the Carson place in order to connect the river above and below the huge meander that was eroding into Stewart's property. In 1883, a Chinese contractor brought 25 laborers to dig a new channel by hand, eliminating the meander directly upstream of today's Meridian Street Bridge (Figure 3).

During a destructive flood in 1906, a massive jam formed in the lower White River causing the backflow to spill into the Stuck River, and adding another flooding river system to the already flooding Puyallup. With the White River now flowing south and the Puyallup River even more susceptible to destructive flooding, Puyallup city officials persuaded the Washington State Legislature to pass an appropriation to help straighten the Puyallup River in 1909. Significant efforts to build levees and widen, straighten, and deepen the Puyallup River between Tacoma and Puyallup began soon thereafter, including elimination of the meander directly downstream of the current project area (Figures 3 and 4) (Roberts 1920). By 1914, the river was dredged and channeled and a concrete levee was constructed from the harbor to the City of Puyallup (City of Tacoma 1981). Continued flooding eventually led to the construction of the Mud Mountain Dam on the White River, completed in 1953, for additional flood control.

In November 1924, Pierce County applied for federal aid to build a steel highway bridge across the Puyallup River, and in early February 1925 awarded a construction contract for \$77,200 to the Puget Sound Bridge & Dredging Company of Seattle. In announcing the award, the Puyallup Valley Tribune noted that "The new road [Meridian Street] will considerably shorten, by the northern route, the distance to Tacoma, and will also bring the big [Puyallup Indian] Reservation district a mile closer to Puyallup (2/7/1925:1)." The bridge was finished in time for the opening of the Western Washington State Fair on 21 September 1925, but Meridian Street remained unpaved, due to refusal by the City Council to fund improvements (9/19/1925:1). Finally County Commissioner Henry Ball had the street "put in shape" for Fair traffic, despite the Council's recalcitrance (9/26/1925:1). The bridge originally carried a lane of traffic in each direction until 1971 when a concrete bridge was built immediately adjacent to the west truss to carry southbound traffic.

During the 1925 construction of the Meridian Street Bridge, the Washington State Historical Society installed a four-sided pyramidal cobblestone marker with concrete base near the northeast end of the bridge. Four incised granite slabs on the marker commemorate the 1855 warning from Abraham Salat at of the impending Indian war, the 1856 erection of Fort Maloney, the school taught by Mrs. Carson in the former blockhouse, John Carson's toll bridge, the river crossing of the military road from

SR 167 Puyallup to SR 509 Addendum to Section 4(f) Evaluation: Appendix 2
Cultural Resources Discipline Report, Washington State Department of Transportation
SR 167 Puyallup River/Meridian Street Bridge, Pierce County, WA

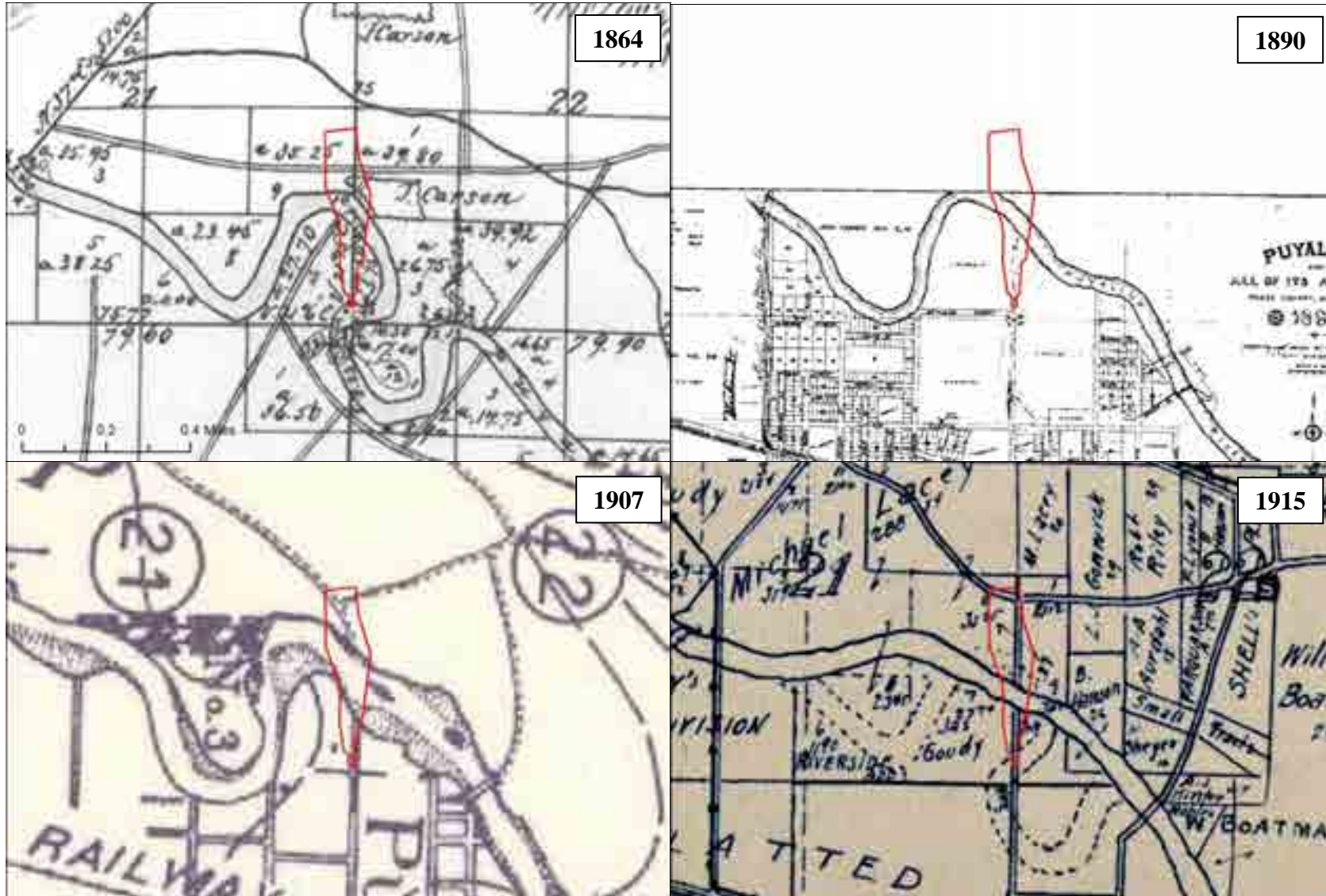


Figure 3. Project area overlaid on historic maps, showing cultural features and changes to the river channel, including General Land Office plat (USSG 1864), 1890 City of Puyallup map (in Price and Anderson 2002), Kielland's (1907) map of the Duwamish-Puyallup Valley, and Kroll's Pierce County Atlas (Kroll Map Company 1915).



Figure 4. Project area overlaid on 1940 U.S. Army Corps of Engineers Aerial Photograph. Dashed line added to show former river meanders prior to channel straightening in the late 19th and early 20th centuries.

Steilacoom to Bellingham, and the first telegraph wire. The marker was moved roughly 220 feet west to its current location on Levee Road by WSDOT during the Meridian St. No. to Sumner No. C/L Project, which was completed in 1973.

Commercial development of former agricultural fields around the south end of the APE began in the 1960s. In 1963, the Hi Ho Shopping Center opened up southwest of the Meridian Bridge at the location of today's Fred Meyer store. Other business joined the shopping complex, and in 1966 the shopping center owners sponsored the construction of the underpass beneath the south end of the Meridian Bridge, which carries northbound shoppers to the area (Price and Anderson 2002:121). Tiffany's Skate Inn, southeast of the bridge, opened in 1969. The Fred Meyer Corporation purchased the Hi Ho Shopping Center in 1980, and eventually tore down the complex to build a new store.

Previous Cultural Resources Surveys

This report supplements the archaeological survey investigations previously completed for the SR 167 Extension Project over a four-year period between 2000 and 2004 by Archaeological and Historical Services (AHS), as summarized in their 2004 report

(Luttrell 2004). The APE for the SR 167 corridor surveyed by AHS was offset 200 ft. from centerline for direct effects, and 400 ft. for indirect effects (Figure 2). The vertical APE was 3 feet. The entire APE was subject to pedestrian survey; probing was conducted in high probability areas where right-of-entry was acquired, at 20-30 meter intervals, using either a shovel or mechanical auger.

At the south end of the SR 167 project area near Puyallup, AHS was unable to excavate shovel probes in one high potential area due to heavy vegetation and the fact that it was continuously occupied as a homeless camp for approximately 50 years. This area, described as a bench on the north bank of an abandoned meander channel of the Puyallup River, is in the vicinity of the northwest portion of the current project APE. Instead of shovel probes, AHS excavated a backhoe trench measuring ca. 265 m (870 ft.) long and 61 cm (2 ft.) wide to an approximate depth of 0.9 m (3 ft.). Two AHS archaeologists monitored the excavation of the trench and inspected, profiled, and photographed the sidewalls.

No maps of probe or trench locations are provided in the AHS survey report. Based on shovel probe records obtained from AHS, probes extended over a length of 700 meters starting at the west end of WSDOT parcel 0420214040. Based on those records, the east end of the line of probes would have extended to within approximately 250 meters of the current APE's western edge, which is at the edge of a wooded area that probably coincides with the former homeless camp. Assuming the east-west trench began near the terminus of the shovel probe line, the 870-foot-long trench would have extended into the current project APE by at least 100 feet (Figure 2). The records suggest that no AHS excavations occurred within the current project APE outside of the backhoe trench.

The current scope of archaeological survey was intended to supplement the previous work by AHS. The AHS survey acknowledged that the project area had potential for deeply buried archaeological resources but, because they were considered beyond the limits of standard testing methodology, no attempts were made to identify deeply buried sites below a depth of three feet. The AHS survey did not extend to the south side of the Puyallup River.

Subsequent to the AHS survey, two cultural resources surveys were completed along the City of Puyallup's Riverfront Trail, within a mile upstream and downstream of the Meridian Street Bridge (Shong 2003a, 2003b). The Riverfront Trail is a multi-use trail on top of, and adjacent to, the flood-control levee along the south side of the Puyallup River. No cultural resources were recorded during the survey for the upstream or downstream portions of the trail, although evidence of the historic levee is discussed, as are a series of wooden pilings within the Puyallup River. The segment of Puyallup River levee within the trail project area was described but not inventoried. According to Shong (2003b), the levee currently exists as a rip-rapped river margin, and multi-terraced landscape. A small segment of the levee exists as a two-sided earthen feature with rock and concrete rip-rap on the river side, but much of the non-river side of the project area had been filled to the levee grade obscuring all signs of the original form. The segment of levee within the trail project area did not retain its original form or design that would distinguish it as a typical

levee. Segments further downstream (and outside the trail project APE) were said to better define the original form, design and construction techniques used to build the levee, including concrete surfaces, and two-sided construction.

The City of Puyallup undertook a reconnaissance-level survey of historic buildings in its downtown in 2007, resulting in a context statement about the development of Puyallup, general observations, recommendations, and Washington State Historic Property Inventory forms for 96 properties dating from 1888 to 1964 (BOLA 2007). In 2009, the City identified the residential neighborhood northwest of downtown for additional survey at the reconnaissance level, recording a total of 33 properties dating largely from 1900 to the 1920s (BOLA 2010). Both the downtown and northwest neighborhoods are outside and south of the current project APE.

No archaeological sites have been previously recorded within one mile of the Meridian Street Bridge project area.

Expectations

The project area has a dynamic history of natural processes and cultural uses and modifications that influence the types and locations of cultural resources that can be expected within the APE. The APE has evolved from a late Pleistocene glacial trough, to an early Holocene marine embayment, to mid-Holocene delta front, to late Holocene meandering river floodplain and channel. The mid-Holocene Osceola Mudflow dramatically influenced sedimentation in the valley, and is recognized in the subsurface of the project area as a poorly sorted, deposit of gravel- to boulder-size clasts in a silty, sandy matrix, tens of feet thick. Subsequent fluvial reworking of these and later deposits has left secondary deposits of Mount Rainier source materials overlying the Osceola deposit. The formerly meandering Puyallup River channel has been straightened, leaving remnant channels and fills in the APE.

Native Americans have utilized the Puyallup River and its floodplain for thousands of years. If intact, buried surfaces remain in the APE, they could potentially contain evidence of Native use and occupation. Given the significant amount of sedimentation that has occurred in the valley, particularly since the mid-Holocene, such archaeological evidence could be deeply buried. Due to the proximity of much of the project area to the active river channel and recent land alterations, however, the probability of preservation of intact archaeology may be somewhat reduced, with higher potential further out on the floodplain. Similarly, although the APE has experienced multiple historic uses since the mid-1800s, expectations for intact historic archaeology are tempered by historic and modern developments that have altered the landscape, including channel improvements and thick fills under Meridian Street and the bridge approaches.

Results of Fieldwork

The two sonic boreholes were drilled between March 27 and March 29, 2012 under cloudy skies, with rain on the 29th. Shovel/auger probing was completed on April 24, 2012 under overcast but dry skies. Monitoring of geotechnical trenching was done on May 7, 2012.

Sonic Borings

Sonic bore #1 (SB-1) was drilled on the north bank of the Puyallup River, on the north shoulder of the SR 167 underpass to N. Levee Road, directly west of the Meridian Street Bridge (Figures 2 and 5). SB-2 was drilled on the south side of the Puyallup River, west of Meridian Street, on the grassy lawn between Meridian Street and the underpass that carries northbound traffic to and from the Fred Meyer shopping complex (Figures 2 and 6).

Both boreholes generally encountered a similar depositional sequence. Lithologic units encountered in each borehole are represented in Figure 7. Depths were measured in the field from the ground surface. In order to more easily compare data between sonic boreholes, elevations of lithologic units have been adjusted to relative mean sea level (msl) as measured from the ground surface elevation extrapolated from the LiDAR Digital Elevation Model (DEM). SB-1 was drilled from an approximate surface elevation of 35 feet msl; SB-2 was drilled from an approximate elevation of 44 feet msl.

The lithology of sediments encountered in the boreholes is designated in Figure 7 by a capital letter indicating the dominant grain size of the deposit. This capital letter is typically followed to its right by a lowercase letter describing a secondary property of the



Figure 5. View of sonic bore #1, looking southeast towards the Puyallup River bridges.



Figure 6. View of sonic bore #2 from the bridge, looking southwest towards Fred Meyer.

same deposit. For example, a primarily sandy deposit would be identified by a capital “S.” A silty sand deposit would be designated “Sz.” Other modifiers can be added indefinitely. The exception to this sequence are the prefixes used to describe sand grainsize classes (very fine to coarse), which are placed to the left of the sand identifier. The lithologic units defined in this way represent single depositional events that occurred under specific conditions in a particular setting. These units can then be grouped together into more inclusive strata, which represent various types of depositional events that occur together in the same overall depositional environment.

Both sonic boreholes were drilled to depths of 100 feet below ground surface, although the bottom nine feet of SB-2 fell out of the core and could not be recovered. Sediments are described below as encountered from bottom to top. At the greatest depths, fine- to coarse-grained sand was recovered (from SB-1), at an elevation of -65 to -50 feet (Figure 7). These sands were overlain by several feet of gray silt and fine sand containing a few fibrous organics and wood fragments and, in SB-2, also by dark gray medium to coarse sand and sandy rounded gravel. These sediments are interpreted as fluvial and deltaic silts and sands deposited at a time when the Puyallup River delta was near the City of Puyallup in the vicinity of the project area. This is consistent with other estimates of the elevation of the delta platform that existed in the area prior to deposition of the Osceola Mudflow (Dragovich et al. 1994; Palmer 1997).

SR 167 Puyallup to SR 509 Addendum to Section 4(f) Evaluation: Appendix 2
 Cultural Resources Discipline Report, Washington State Department of Transportation
 SR 167 Puyallup River/Meridian Street Bridge, Pierce County, WA

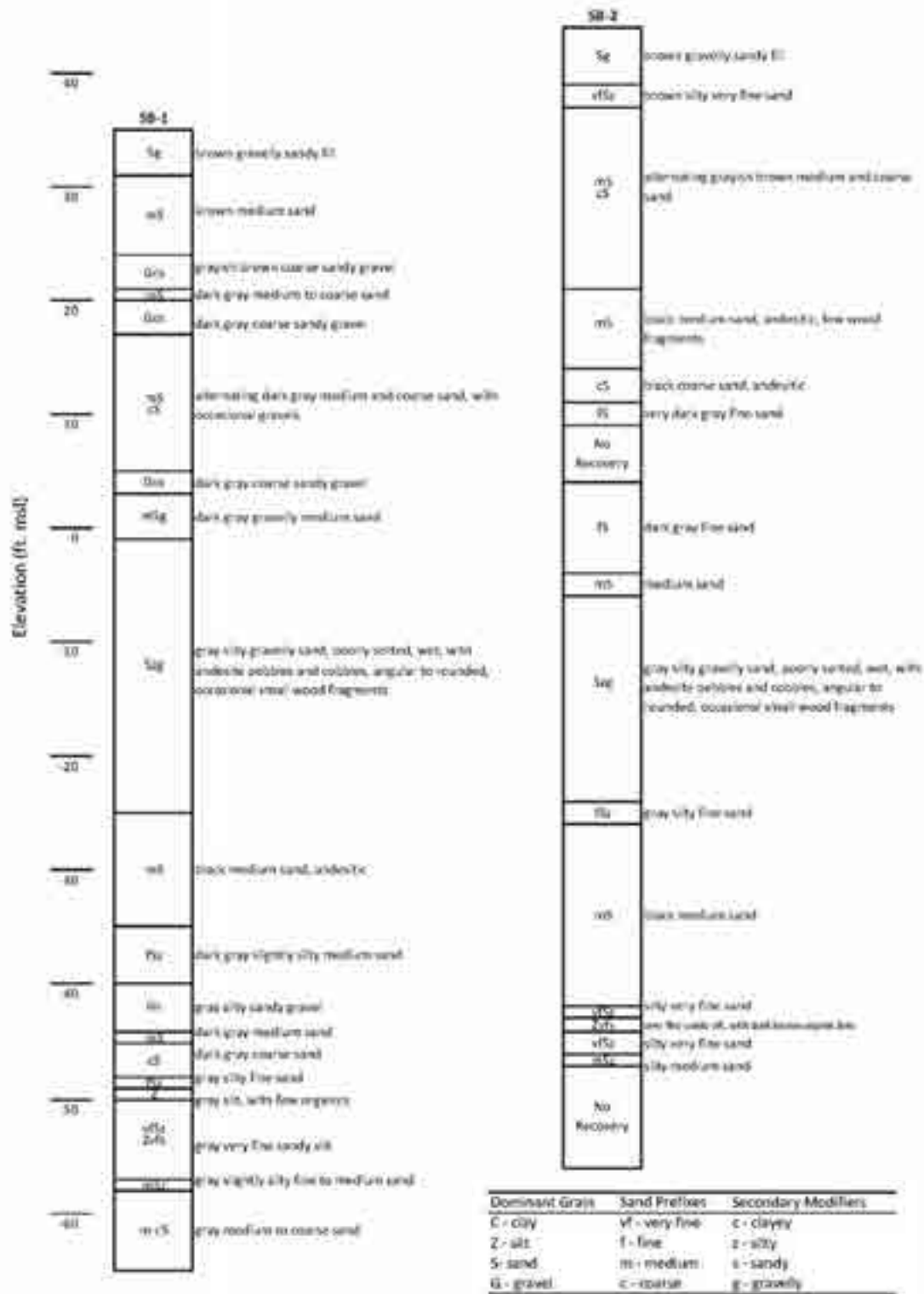


Figure 7. Sonic borehole logs.

A poorly sorted silty, sandy gravel deposit was found at a depth of -44 to -40 ft. in SB-1, but was absent from SB-2. This gravelly deposit resembles, but is clearly separate from, the later Osceola lahar deposit, and may represent a pre-Osceola lahar from the Cowlitz Park eruptive episode on Mount Rainier (Pringle 2008:35).

Between elevations of -40 and -25 feet, a massive deposit of very dark gray to black, andesitic medium sand was encountered. The andesitic composition of the sand indicates an origin on the flanks of Mount Rainier, and it may represent a transition facies deposit left by the dilute flow front of the Osceola Mudflow (Scott 1988), or fluvial redeposition of earlier lahar sands. At an approximate bottom elevation of -25 feet, both boreholes encountered a thick deposit of poorly sorted, wet, gray muddy sand with gravels and cobbles (Figure 8). Gravels were angular to well-rounded, and were mostly andesite. A few small wood fragments were encountered as well. This deposit, interpreted as the debris flow from the Osceola lahar event, was approximately 18- to 24-feet thick in the two boreholes.

Above the Osceola Mudflow in SB-1, deposits consisted of dark gray, alternating fine to coarse andesitic sands and fine gravels, representing fluvial sands and gravels deposited in and near the former river channel prior to realignment. In SB-2, gravels are largely absent above the mudflow deposit, with sediments consisting of fine to coarse fluvial sands. The andesitic composition of the sands in both boreholes indicates their origin in upstream Osceola deposits or reworking of other volcanic sources that originated on the flanks of Mount Rainier. A deposit of black volcanoclastic sand in SB-2 between 11 and 21 ft. msl may represent a late-Holocene lahar event. The uppermost deposits in both boreholes, above 21 ft. msl, are browner in color, and in SB-1 consist of medium sands likely deposited within the abandoned channel after river straightening roughly 100 years ago, either naturally during flood events, or as intentional fill during the realignment. The top five feet of both boreholes encountered more recent gravelly sandy fill likely deposited during road and bridge construction.



Figure 8. Osceola debris flow deposit in SB-1, at approximately -23 ft. msl.

No evidence was observed of buried, stable surfaces likely to have preserved evidence of past human occupation.

A number of borehole logs generated for the project by the WSDOT Geotechnical Division were also examined. Two geotechnical boreholes had been drilled in close proximity to the two sonic boreholes: geotechnical borehole H-5p-11 was drilled near SB-1, and H-3p-11 was drilled near SB-2. The H-5p-11 core reached 251 feet below ground surface, and H-3p-11 reached 236 feet below surface.

Dense sands and gravels encountered below 130-140 feet below surface in both boreholes may represent Pleistocene outwash deposits, overlain by silty deposits possibly representing incursion of the Puyallup Embayment, followed by sands and silts representing arrival of the Puyallup delta. The poorly-sorted Osceola Mudflow deposits are found between depths of approximately 70 and 40 feet. These are overlain by post-Osceola alluvial sands.

Shovel/Auger Probing

A total of nine shovel/auger probes were completed in the northwest portion of the APE, reaching depths ranging from 40 to 220 cm below ground surface (Table 1). Soils ranged from silt loam to sandy loam soils that have developed within floodplain alluvium, resembling the Briscot loam mapped in the area, with thin layers of fill encountered at the surface of several of the probes. No cultural materials or evidence of intact buried surfaces were identified.

Table 1. Shovel/Auger Probe Descriptions.

Shovel Probe #	Sediments	Interpretation
1	0-25 cm: 10YR 3/2 very dark grayish brown silt loam, w/ 10% angular to rounded gravel including a few larger cobbles; 25-55 cm: 10YR 4/2 dark grayish brown clayey silt, very dense	Fill above floodplain silts or fill compacted by roadway construction
2	0-40 cm: 10YR 3/2 very dark grayish brown loam transitioning to silty fine sand; 40-200 cm: 7.5YR 3/4 dark brown fine sand, becomes 10YR 4/2 dark grayish brown fine sand	Soil developed in floodplain alluvium
3	0-20 cm: 10YR 3/2 very dark grayish brown silt loam; 20-60 cm: 10YR 4/2 dark grayish brown silt loam; 60-105 cm: 10YR 3/2 very dark grayish brown fine sand	Soil developed in floodplain alluvium
4	0-25 cm: 10YR 3/2 very dark grayish brown silt loam, w/ 10% angular to rounded gravel including a few larger cobbles; 25-55 cm: 10YR 4/2 dark grayish brown clayey silt, very dense	Fill above floodplain silts or fill compacted by roadway construction
5	0-20 cm: 10YR 3/2 very dark grayish brown loam; 20-75 cm: 10YR 4/3 brown fine sandy loam; 75-170 cm: 7.5YR 3/4 to 10YR 3/1 dark brown to very dark gray fine sand	Soil developed in floodplain alluvium
6	0-20 cm: 10YR 3/2 very dark grayish brown loam; 20-90 cm: 10YR 4/3 brown fine sandy loam; 90-200 cm: 7.5YR 3/4 to 10YR 3/1 dark brown to very dark gray fine sand; 200-212 cm: 10YR 4/3 brown silty very fine sand	Soil developed in floodplain alluvium
7	0-20 cm: 10YR 3/2 loam, with 10% rounded to angular gravel; 20-105 cm: 10YR 4/3 brown fine sandy loam, dense	Fill above soil developed in floodplain alluvium
8	0-35 cm: 10YR 2/2 very dark brown gravelly loam; 35-80 cm: 10YR 4/2 dark grayish brown fine sandy loam becoming fine sand; 80-220 cm: 10YR 3/1 very dark gray fine to medium sand	Fill above soil developed in floodplain alluvium
9	0-25 cm: 10YR 3/2 very dark grayish brown silt loam, w/ 10% angular to rounded gravel including a few larger cobbles; 25-40 cm: 10YR 4/2 dark grayish brown clayey silt, very dense	Fill above floodplain silts or fill compacted by roadway construction

Geotechnical Trenches

Two geotechnical test pits were excavated by backhoe on May 7, 2012 in the northwest portion of the APE near the previously-excavated shovel probes (Figure 2). Test pit #1, which was visually determined to be within an area of fill extending west from the

highway, encountered silt, sand, and gravel fill. The trench terminated on a broken slab of concrete at a depth of five feet. Test pit #2 was excavated to a depth of nine feet, and encountered loam soils that have developed within sandy floodplain alluvium. No cultural materials or evidence of intact buried surface were identified.

Historic Structures Survey

WSDOT Historian Craig Holstine reevaluated the Puyallup River/Meridian Street Bridge in December 2011, and surveyed the additional historic structures (dating 45 years or older) within the APE on June 8, 2012 (see Figure 2 for locations).

Puyallup River/Meridian Street Bridge

The 1925 Puyallup River/Meridian Street Bridge's main span is a 371-foot long steel riveted, subdivided Warren through truss (Figure 9). Unlike the standard Warren truss, this bridge has parabolic top chords and alternating diagonal truss members, longitudinal braces between diagonals in alternating panels, and vertical members adjacent to the portals. In 1991 the portal sway braces and interior panel sway bracing was modified to increase vertical clearance for over-sized traffic from 14 feet 7 inches to 18 feet 7 inches. Although the modifications were sensitive to the original truss configuration, retaining as much of the old bracing as possible, the truss appearance has changed somewhat when viewed from the roadway. Among the changes to the deck are the 21 inch-high metal thrie beams attached to the traffic-facing side of the trusses, reducing the roadway width by 9 inches to 21 feet. The south approach to the truss consists of a 21-foot long precast, prestressed girder span and two 19-foot long timber trestle spans (which replaced earlier timber spans), all added in 1951. The north approach consists of two 19-foot long timber trestle spans, also dating to 1951, bringing the total length of the structure to 468 feet. The truss piers are founded on timber piles, while the approach piers rest on concrete spread footings. A five-foot wide timber sidewalk is attached to the east side of the bridge. A decorative, cross-hatched lattice steel rail is attached to the outer edge of the sidewalk along the full length of the truss span, providing both improved safety for pedestrians and a somewhat aesthetic appearance to the east elevation. The bridge originally carried a lane of traffic in each direction until 1971 when a concrete bridge was built immediately adjacent to the west truss to carry southbound traffic. The modern concrete bridge rises several feet above the roadway of the historic truss bridge, detracting considerably from the aesthetics of the older bridge.



Figure 9. Meridian Street Bridge.

Fort Maloney Historical Marker

The Fort Maloney Historical Marker (Figure 10), dedicated in 1925, commemorates several important historical events that occurred in the vicinity of the Meridian Street Bridge, as described in the Cultural Setting section of this report. The

mortared cobblestone pyramid on a concrete base was moved from the Meridian Street Bridge's northern approach to its current location on N. Levee Road in the early 1970s.

North Bank Puyallup River Revetment

A revetment consisting of boulders up to two feet in diameter stacked at an angle greater than 45 degrees armors the north bank of the Puyallup River under the SR 167 bridges (Figure 11). The revetment rises approximately 8 feet above an inclined base of similar sized boulders that

extends into the river. Unconsolidated boulders, rocks, and gravels have been dumped atop the revetment to add protection to the roadway loop under the bridges connecting northbound SR 167 traffic with North Levee Road. Extending beyond the bridges in both directions for undetermined distances, the revetment has been built up around the piers of both the 1925-built and 1971-built bridges, suggesting its installation being contemporaneous with, or after, the latter bridge's construction date. This rock revetment is therefore the most recent iteration of Puyallup River flood control efforts that date back to the late 1800s. No similar rock revetment exists on the south bank of the river under the bridges, although revetments and levees exist beyond the SR 167 right-of-way both upstream and downstream.

Paul A. Lindsay House

Pierce County Assessor-Treasurer's information shows this house's construction date as 1955. However, given the house's style and construction, it seems likely it was built earlier. The City Directory indicates that Paul A. Lindsay, a janitor at Maplewood School, and his wife Adolphine lived at this address in 1947. By 1950 Lindsay had become a teacher at the school. Despite his probable salary increase, it seems unlikely that the



Figure 10. Fort Maloney Historical Marker, looking southeast, with SR 167 bridges in background.



Figure 11. North Bank Revetment.



Figure 12. Paul A. Lindsay House.

Lindsays would have built a new house here five years later. They continued living in the house at least through 1961.

Mead M. Murray House

This vernacular two-story house facing N. Meridian Street is largely screened from view by maple, oak, birch and other large trees and shrubs that have overgrown the property. In 1936 Mead M. and Wilma Murray lived in this house, which at that time was 103 N. Meridian (three years later it was 1003 N. Meridian, and by 1947 the address had become 1103 N. Meridian). The Murrays continued to live there at least through 1958. By 1961 Glen M. and Jean B. Freeman lived in the house. Pierce County records say the house



Figure 13. Mead M. Murray House.

was built in 1900. That date appears to be too early, given the style and materials used in the house's construction (especially the drop siding), and the probable age of N. Meridian Street. The roadway may not have existed in its present alignment until shortly before the Puyallup River Bridge was built in 1925. At the time of the bridge's construction, N. Meridian was an unimproved, unpaved roadway. It took action by a county commissioner and the approaching opening of the Western Washington Fair of 1925 to finally improve the street.

Table 2. Inventoried Historic Properties.

Property # (see Fig. 2)	Property Name	Construction Date	NRHP Status
1	Meridian Street Bridge	1925	Eligible
2	Fort Maloney Historical Marker	1925	Not eligible
3	North Bank Puyallup River Revetment	ca. 1971	Not eligible
4	Paul A. Lindsay House	ca. 1940	Not eligible
5	Mead M. Murray House	ca. 1920	Not eligible

Assessments of Significance

Meridian Street Bridge

As part of the SR 167 Extension – Puyallup to SR 509 Project documentation completed in 2000, the existing Meridian Street Bridge was determined not eligible for listing in the National Register of Historic Places (NRHP). Reevaluation of the bridge for the current phase of the project yielded additional information on the unique nature of its design. The Puyallup River/Meridian Street Bridge is currently the longest, simply supported, steel riveted Warren through truss span built prior to 1940 remaining on the Washington State highway system. The popularity of the Warren truss emerged in the late 1930s, and continued through the 1950s. Very few truss bridges were built on State-owned highways

after 1960. Although a modest number of Warren trusses still remain on the system, the number has declined. Narrow bridges with restricted vertical clearance, such as through trusses, are routinely replaced by wider concrete bridges.

The Puyallup River/Meridian Street is also significant for its unusual, perhaps unique truss configuration. As a variation from the standard Warren truss' horizontal top chord, the bridge has a parabolic top chord allowing for a longer span length than possible with the standard top chord. The parabolic configuration also avoided the need for heavier, or additional, truss components to reach the entire span length. Its subdivided panels and the addition of longitudinal members at the mid-panel heights in five truss panels achieved both strength and economy of steel. The bridge is significant for its design, which is the only one of its kind in Washington, and may very well be unique in the United States if not the world, although additional research would be needed to confirm that conclusion. Despite modest alterations over the years, and additions made for safety and structural improvement, the bridge retains integrity of design, materials and workmanship, and is thus eligible for inclusion in the NRHP under Criterion C. The SHPO concurred with WSDOT's determination of eligibility on February 8, 2012.

Fort Maloney Historical Marker

The historical marker was previously evaluated in 2000 by Charles Luttrell, who recommended the structure not be determined eligible because "its design, age, tradition or symbolic value has not invested it with its own significance." WSDOT determined the marker not NRHP eligible in 2003, and the SHPO concurred. Since the monument does not appear to possess aesthetic values of the period of its creation; nor has it defined the historic identity of the area; nor has it come to symbolize the values, ideas, or contributions valued by the generation that erected it, the marker is not eligible for inclusion in the NRHP per the requirements of Criteria Consideration F: Commemorative Properties. The marker will not be touched by the proposed project.

North Bank Puyallup River Revetment

With the 1909 passage by the Washington State Legislature of an appropriation to help straighten the Puyallup River, significant efforts to build levees and widen, straighten, and deepen the Puyallup River between Tacoma and Puyallup began in earnest, including elimination of the meander directly downstream of the current project area. By 1914, the river was dredged and channeled and a concrete levee was constructed from the harbor to the City of Puyallup (City of Tacoma 1981). Undated photos show the 1925-built bridge atop massive concrete levees on both banks of the river (Dorpat and McCoy 1998:264). Those levees do not presently exist under the two SR 167 bridges. The levee on the south bank is still in place a short distance downstream of the APE and, although not visible, may still be in place upstream and downstream from the APE on the north bank. In 1950 the US Army Corps of Engineers rebuilt revetments and levees when the river's channel capacity was increased, and some of that work may have involved the structures under the bridges.

The current north bank revetment appears to be of more recent construction, with rocks probably larger than early trucks and construction equipment could have easily moved

into place. A 1971 “Plan” drawing for the new SR 167 bridge shows “concrete slope protection” on the river’s north bank, indicating that the present rock revetment dates to the 1971 bridge construction or sometime thereafter when the earlier flood control structure was either removed or covered by a new structure. Thus the original revetment or levee in this location has lost integrity of materials, workmanship, and feeling (if not design), and is not NRHP eligible.

Lindsay House

Although the house retains much of its exterior integrity, it lacks architectural distinction and is not eligible for inclusion in the National Register of Historic Places. Installation of vinyl windows has compromised that integrity, most prominently on the structure’s primary façade.

Murray House

This abandoned, vernacular house retains considerable integrity of design and materials on its exterior, most notably its cladding, wood windows, and wood rain gutters. Despite the house’s retention of some historic appearance, however, its deteriorated condition and lack of architectural distinction render it ineligible for inclusion in the National Register of Historic Places.

Conclusions and Recommendations

This supplemental survey for the Meridian Street Bridge phase of the SR 167 Extension Project resulted in the inventory and/or reevaluation of five historic structures, one of which (the Meridian Street Bridge) is eligible for listing in the NRHP. WSDOT and FHWA will continue consultation with interested parties in order to seek ways to avoid, minimize, or mitigate adverse effects to the Meridian Street Bridge that could result from the project. If adverse effects to the Meridian Street Bridge cannot be avoided, an amendment to the existing Memorandum of Agreement (MOA) for the SR 167 Extension Project should be developed in consultation to stipulate mitigation measures.

The MOA should also stipulate additional Section 106 review of future phases of the SR 167 Extension Project in order to ensure that historic properties outside the Meridian Street Bridge project area have been adequately taken into account.

Notes and photographs for this survey will be kept on file at the WSDOT Environmental Services Office, Olympia, Washington. A copy of this report should be forwarded to the Washington State Department of Archaeology and Historic Preservation, and the interested and affected tribes.

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Appendix A – Historic Property Inventory Forms



Historic Inventory Report

Location

Field Site No. DAHP No.

Historic Name: Meridian Street Bridge

Common Name: Puyallup River Bridge 167/20E

Property Address: 0000 N Meridian St N, Puyallup, WA 98424

Comments:

Tax No./Parcel No.

Plat/Block/Lot

Acreage

Supplemental Map(s)

Township/Range/EW	Section	1/4 Sec	1/4 1/4 Sec	County	Quadrangle
T20R04E	21			Pierce	PUYALLUP

Coordinate Reference

Easting: 1194635

Northing: 686851

Projection: Washington State Plane South

Datum: HARN (feet)

Identification

Survey Name: Puyallup River Bridge

Date Recorded: 12/30/2011

Field Recorder: Craig Holstine

Owner's Name: Washington State Department of Transportation

Owner Address: 310 Maple Park Blvd.

City: Olympia

State: WA

Zip: 98504

Classification: Structure

Resource Status:

Comments:

Survey/Inventory

Within a District? No

Contributing? No

National Register:

Local District:

National Register District/Thematic Nomination Name:

Eligibility Status: Not Determined - SHPO

Determination Date: 1/1/0001

Determination Comments:



Historic Inventory Report

Description

Historic Use: Transportation - Road-Related (vehicular)		Current Use: Transportation - Road-Related (vehicular)	
Plan: Unknown	Stories: not applic	Structural System: Steel	
Changes to Plan: Slight		Changes to Interior: Not Applicable	
Changes to Original Cladding: Not Applicable		Changes to Windows: Not Applicable	
Changes to Other: Not Applicable			
Other (specify):			
Style:	Cladding:	Roof Type:	Roof Material:
Other	None	None	None
Foundation:	Form/Type:		
Concrete - Poured	Other		

Narrative

Study Unit	Other
Transportation	
Date of Construction:	1925 Built Date 1951 Remodel
	Builder: Puget Sound Bridge & Dredging Co., Seattle
	Engineer: M.M. Caldwell
	Architect:

Property appears to meet criteria for the National Register of Historic Places: Yes

Property is located in a potential historic district (National and/or local): No

Property potentially contributes to a historic district (National and/or local): No

Statement of Significance: The Puyallup River/Meridian Street Bridge is currently the longest, simply supported, steel riveted Warren through truss span built prior to 1940 remaining on the Washington State highway system. The popularity of the Warren truss emerged in the late 1930s, and continued through the 1950s. Very few truss bridges were built on State-owned highways after 1960. Although a modest number of Warren trusses still remain on the system, the number has declined. Narrow bridges with restricted vertical clearance, such as through trusses, are routinely replaced by wider concrete bridges.



Historic Inventory Report

The Puyallup River/Meridian Street is also significant for its unusual, perhaps unique truss configuration. As a variation from the standard Warren truss' horizontal top chord, the bridge has a parabolic top chord allowing for a longer span length than possible with the standard top chord. The parabolic configuration also avoided the need for heavier, or additional, truss components to reach the entire span length. Its subdivided panels and the addition of longitudinal members at the mid-panel heights in five truss panels achieved both strength and economy of steel. Those highly unusual modifications to the original Warren truss appear strikingly similar to the so-called Turner truss, patented by Claude A.P. Turner in 1923. Turner wrote that "The type of truss is one originated by the writer to eliminate the multiplicity of nominal members" (Turner 1922:180). In his patent description, Turner wrote that one important element of his design were the longitudinal struts connected to diagonal web members "at a point substantially midlength thereof" and that "the framework thus formed by said struts is applied only to alternate panels. The arrangement . . . works out very economically of material in practice. By my invention a truss as provided that uses a minimum of material, it has great stiffness and it eliminates, or greatly reduces, secondary stresses" (Turner 1923). In her Historic American Engineering report for the Liberty Memorial Bridge in North Dakota, Nancy Ross writes: "The primary modification [to the Warren truss] is the reinforcing of alternate panels with a framework of steel struts. Intended to increase the overall rigidity of the truss web, the modification gives the trusses a distinctive appearance that differs considerably from the conventional Warren profile. In spite of the advantages of this novel variant of the Warren truss, the Liberty Memorial Bridge is the only example of the application of this design" (Ross 1991:11).

Ross' conclusion seems to be borne out by the Puyallup River/Meridian Street Bridge in that, although very similar to the design used for the Liberty Memorial Bridge, including longitudinal bracing in alternate panels, it is not a Turner truss. The primary difference between the two designs is that the only vertical struts in the Puyallup/Meridian Bridge are those adjacent to each portal, whereas vertical members connect the longitudinal substruts and diagonals to the bottom chords in every panel on the Liberty Memorial Bridge. In his comparison of the two bridges, retired WSDOT bridge engineer Robert Krier noted: "the absence of vertical members [on the Puyallup/Meridian Bridge] requires the diagonals of the Meridian Truss to act directly, in both compression and tension," whereas in the Liberty Memorial Bridge, the numerous verticals in the truss panels transfer some of the vertical loads indirectly into the diagonals. In addition the panel lengths are significantly different on the two bridges: 26.5 feet on the Puyallup/Meridian Bridge; 17 feet on the Liberty Memorial Bridge. Although not visibly apparent, the resulting structural requirements for the relative floor systems of the two bridges are considerably different. In order to have a more complete understanding of the load distribution of the truss members and thereby perform a structural comparison between the two bridges, it would be necessary to have the details of the sequence of the steel erection, roadway deck construction and release of falsework (Krier 2010).



Historic Inventory Report

When comparing the Puyallup River/Meridian Street Bridge with the Liberty Memorial Bridge in North Dakota, structures of similar design, it seems unavoidable to ask: In designing the Puyallup Bridge in 1924, did M.M. Caldwell use or borrow details from Claude A.P. Turner's truss design, patented in 1923? Given that Turner published an article about his design of the Liberty Memorial Bridge in the *Engineering News-Record*, the most popular nation-wide trade journal of the day, in February 1922, Caldwell probably knew of the design. The article included small drawings of the bridge's elevation and floor system, and a somewhat more detailed drawing of "SUBDIVIDED TRIANGULAR TRUSSES." Those, along with simple drawings and explanations included in the patent, published in January 1923, would have provided ample inspiration for an engineer to adapt the Turner truss details to design any long-span bridge. Turner in fact labeled his patent "LONG-SPAN BRIDGE," perhaps in case the design's applicability was unclear (Turner 1922 and 1923). However, it is questionable whether Caldwell actually would have considered it necessary to incorporate any of Turner's "Long-Span" structural features into the Puyallup Bridge, since its span of 371 feet is 105 feet shorter (22%, a significant structural difference) than Turner's bridge. Further, the subdivided Warren truss (developed in the late 1800s) and the Pennsylvania truss (developed by the Pennsylvania Railroad in 1875 with the polygonal top chord for use in long-span railroad bridges) provided Caldwell with sufficient structural features for utilization in his bridge if he so desired. As no evidence is known to exist that Caldwell either legally used the patent, or perhaps simply borrowed liberally from it without acknowledging the source, further research may reveal Caldwell's awareness of Turner's design. Regardless of his possible knowledge of Turner's truss, Caldwell's design is nevertheless another variation of a subdivided Warren through truss with its own characteristics perhaps unique to this structure.

Although it is not actually a Turner truss, the Puyallup River/Meridian Street Bridge is significant for its design, which is the only one of its kind in Washington, and may very well be unique in the US if not the world, although additional research would be needed to confirm that conclusion. Despite modest alterations over the years, and additions made for safety and structural improvement, the bridge retains integrity of design, materials and workmanship, and is thus eligible for inclusion in the NRHP under Criterion C.

Historical Background

M.M. Caldwell, as he signed his name to drawings and documents, and as his name appears on bronze plaques on the structure, designed the Puyallup River/Meridian Street Bridge. Maury M. Caldwell first appears in Seattle city directories in 1917 as simply "engineer." The next year he is identified as a clerk with the C.G. Huber Company, a Seattle firm then constructing a steel Petit truss bridge on the Cowlitz River in southwest Washington. By 1920 Caldwell had become "Chief Engineer" with the Union Bridge Company (Polks' 1916-1920). In that capacity he oversaw construction in 1921 of the James O'Farrell Bridge over the Carbon River in Pierce County, as well as construction of one mile of highway (presently SR 162) leading to the bridge (Clarke 1993:5; Hall 1994:303; Pierce County Public Works, Fairfax/O'Farrell/Carbon River Bridge file). By 1923 Caldwell was representing the Strauss Bascule Bridge Company of Chicago in promoting a movable bridge in Aberdeen, Washington (Pacific Builder and Engineer 1923:13). The company built the Wishkah River Bridge there the next year under Caldwell's direction (Lawrence 1993:3). By then he had become (in the city directory) a "consulting engineer," apparently no longer affiliated with the Union Bridge Company. Caldwell retained that status until 1942, when his name disappeared from the Seattle City directories (Polks' 1921-1942).

In November 1924 Pierce County applied for federal aid to build what was called a "Steel Highway Bridge Crossing Puyallup River Between Secs. 21 & 22, T20N, R4E." On the drawing submitted with the application, the bridge appears in elevation view to be the design used to build the bridge the next year. M.M. Caldwell's name does not appear on the drawing, however, the only signature being that of C.H. Votaw, the County Engineer. Clifford Votaw eventually supervised construction of the Puyallup River/Meridian Street Bridge, as well as the Hylebos Bridge in Tacoma, among many other Pierce County road and bridge projects (Bonney 1927:491). Undated drawings in the County's Public Works Office do, however, bear the designer's name "M.M. CALDWELL, CONSULTING ENGINEER."



Historic Inventory Report

In early February 1925 Pierce County awarded a construction contract for \$77,200 to the Puget Sound Bridge & Dredging Company of Seattle. Nine other firms had submitted bids, ranging in cost estimates from \$78,989 to \$93,905 (Pierce County Public Works, Meridian Street Bridge file). In announcing the award, the Puyallup Valley Tribune noted that "The new road [Meridian Street] will considerably shorten, by the northern route, the distance to Tacoma, and will also bring the big [Puyallup Indian] Reservation district a mile closer to Puyallup" (2/7/1925:1; all following citations in this paragraph are from that newspaper, except where noted). Piling and falsework had been erected across the river by mid May when the same newspaper reported that construction was ahead of schedule on the bridge, but that Meridian Street "is not in condition, nor have any definite steps been taken toward improvement or paving" (5/16/1925:1 & 10). Concrete piers were "virtually" complete when 380 tons of steel from the Virginia Bridge and Iron Company in Roanoke, Virginia, arrived on site the next month (6/13/1925:1; Pierce County Public Works, Meridian Street Bridge file). On July 4th C.J. Flem, superintendent of construction for the Company, reported that riveters had started work on the steel in place across the river, and that the 5 ½ inch-thick concrete deck was "virtually completed" (7/4/1925:1). The bridge was finished in time for the opening of the Western Washington State Fair on 21 September 1925, but Meridian Street remained unpaved, due to refusal by the City Council to fund improvements (9/19/1925:1). Finally County Commissioner Henry Ball had the street "put in shape" for Fair traffic, despite the Council's recalcitrance (9/26/1925:1). In October, work commenced near the bridge on the pyramidal concrete and stone marker with bronze plaque commemorating the first road or Indian trail across the river at the site, the first school in the Puyallup Valley housed in the Indian War blockhouse that stood "Near the north approach," and the first telegraph line to reach the community (7/26/1925:1; 10/17/1925:1).

Description of Physical Appearance:

The Puyallup River/Meridian Street Bridge's main span is a 371-foot long steel riveted, subdivided Warren through truss. Unlike the standard Warren truss, this bridge has parabolic top chords and alternating diagonal truss members, longitudinal braces between diagonals in alternating panels, and vertical members adjacent to the portals. In 1991 the portal sway braces and interior panel sway bracing was modified to increase vertical clearance for over-sized traffic from 14 feet 7 inches to 18 feet 7 inches. Although the modifications were sensitive to the original truss configuration, retaining as much of the old bracing as possible, the truss appearance has changed somewhat when viewed from the roadway. Among the changes to the deck are the 21 inch-high metal thrie beams attached to the inside (traffic) side of the trusses, reducing the roadway width by 9 inches to 21 feet. The south approach to the truss consists of a 21-foot long precast, prestressed girder span and two 19-foot long timber trestle spans (which replaced earlier timber spans), all added in 1951. The north approach consists of two 19-foot long timber trestle spans, also dating to 1951, bringing the total length of the structure to 468 feet. The truss piers are founded on timber piles, while the approach piers rest on concrete spread footings. A five-foot wide timber sidewalk is attached to the east side of the bridge. A decorative, cross-hatched lattice steel rail is attached to the outer edge of the sidewalk along the full length of the truss span, providing both improved safety for pedestrians and a somewhat aesthetic appearance to the east elevation. The bridge originally carried a lane of traffic in each direction until 1971 when a concrete bridge was built immediately adjacent to the west truss to carry southbound traffic. The modern concrete bridge rises several feet above the roadway of the historic truss bridge, detracting considerably from the aesthetics of the older bridge.



Historic Inventory Report

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Polks' Seattle City Directories. Chicago. 1916-1942.

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Historic Inventory Report

Photos



2011



Deck view to north.
2011



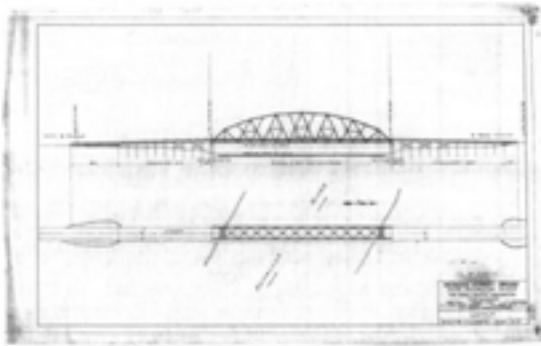
Original portal braces prior to removal and replacement.
1947



C.A.P. Turner's 1923 patent for a "long-span" truss bridge.
1923



Historic Inventory Report



Meridian St. Bridge elevation drawing by M.M. Caldwell
2011



Plaque on bridge showing M.M. Caldwell, designer, and Puget Sound Bridge & Dredging Co., Seattle, builder.
2011



Replaced portal brace.
2011



Newer bridge (#167/20W, foreground) and older (1925) bridge to northeast.
2011





Historic Inventory Report

Sidewalk on east side.
2011



Subdeck to north.
2011

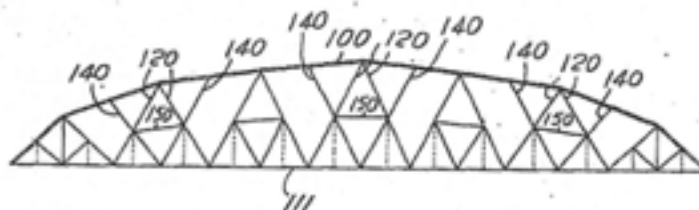
Jan. 9, 1923.

C. A. P. TURNER.
LONG SPAN BRIDGE.
ORIGINAL FILED JULY 16, 1913.

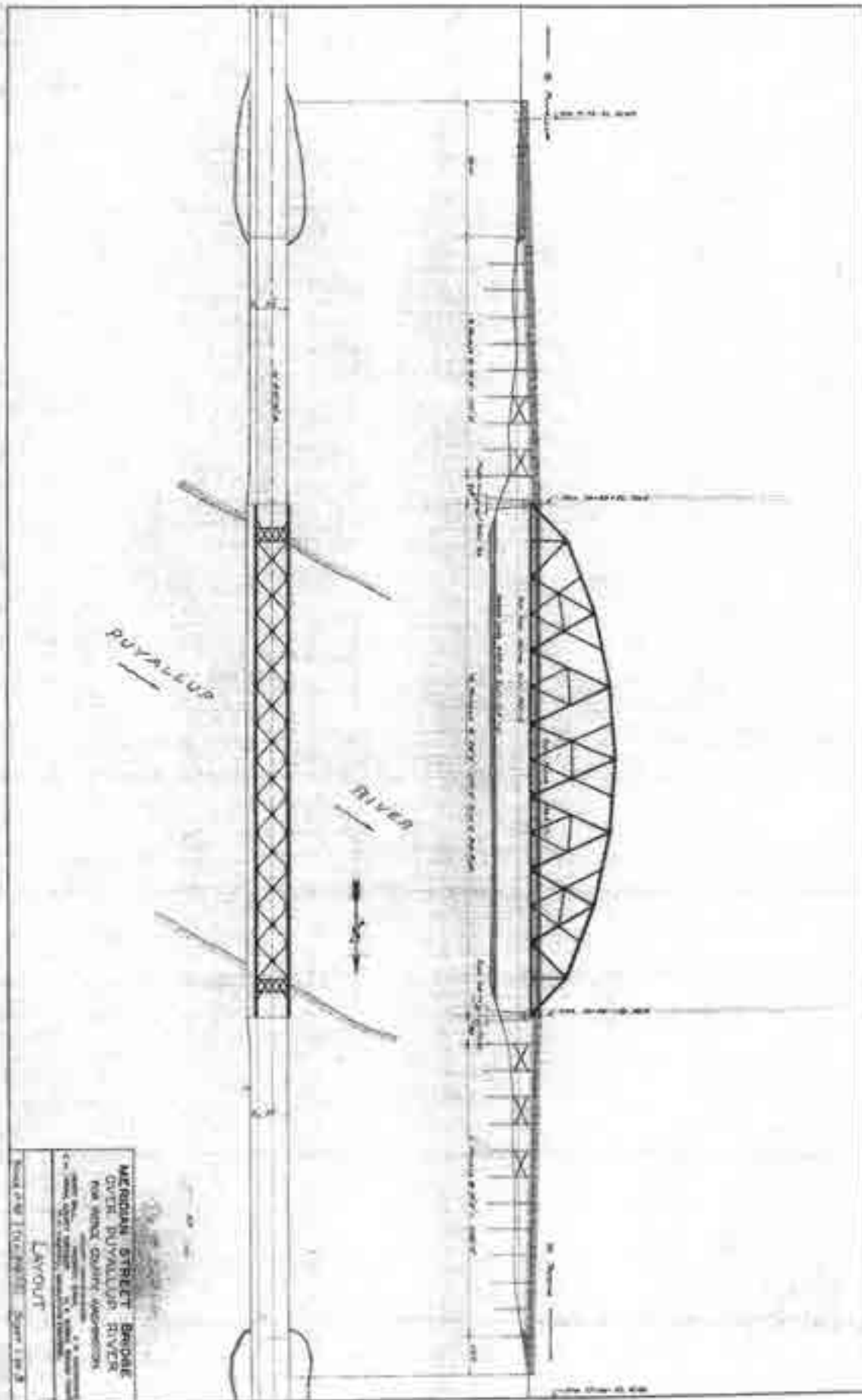
1,441,387.

3 SHEETS—SHEET 3.

Fig. 4.



INVENTOR.
C. A. P. Turner.
BY *Chas. Williamson*
ATTORNEY.





Historic Inventory Report

Location

Field Site No. DAHP No.

Historic Name: Fort Maloney Historical Marker

Common Name: Ft. Steilacoom-Ft. Bellingham Military Marker

Property Address: 0000 N Levee Rd N, Puyallup, WA

Comments:

Tax No./Parcel No.

Plat/Block/Lot

Acreage

Supplemental Map(s)

Township/Range/EW	Section	1/4 Sec	1/4 1/4 Sec	County	Quadrangle
T20R04E	21	SE	SE	Pierce	PUYALLUP

Coordinate Reference

Easting: 1194448

Northing: 687108

Projection: Washington State Plane South

Datum: HARN (feet)

Identification

Survey Name: Puyallup River Bridge 167/20E Project

Date Recorded: 06/08/2012

Field Recorder: Craig Holstine

Owner's Name: Pierce County

Owner Address: 0000

City: Tacoma

State: WA

Zip: 98409

Classification: Structure

Resource Status:

Comments:

Survey/Inventory

Within a District? No

Contributing? Yes

National Register:

Local District:

National Register District/Thematic Nomination Name:

Eligibility Status: Not Determined - SHPO

Determination Date: 1/1/0001

Determination Comments:



Historic Inventory Report

Description

Historic Use: Recreation and Culture - Monument/Marker		Current Use: Recreation and Culture - Monument/Marker	
Plan: Unknown	Stories: 0	Structural System: Mixed	
Changes to Plan: Not Applicable		Changes to Interior: Not Applicable	
Changes to Original Cladding: Not Applicable		Changes to Windows: Not Applicable	
Changes to Other: Extensive			
Other (specify): location is not original (1925)			
Style:	Cladding:	Roof Type:	Roof Material:
Other	None	None	None
Foundation:	Form/Type:		
Concrete - Poured	None		

Narrative

Study Unit	Other
Politics/Government/Law	
Date of Construction:	1925 Built Date
Builder:	Washington State Historical Society
Engineer:	
Architect:	Washington State Historical Society

Property appears to meet criteria for the National Register of Historic Places: No

Property is located in a potential historic district (National and/or local): No

Property potentially contributes to a historic district (National and/or local): No



Historic Inventory Report

Statement of Significance:

Construction of this monument began "at the north end of the Meridian Street Bridge" on 16 October 1925. It was completed by 30 October when dedicated "under the auspices of the Washington State Historical Society" (Bonney 1926:36). The marker has been recorded previously: by Gary Fuller Reese as the "Fort Steilacoom-Fort Bellingham Military Marker" in 1974; by Caroline Gallacci as the "Fort Malone [sic] Historical Marker (PC-96-15)" in 1982; and by Charles T. Luttrell (per Gallacci's title) in 2000, who recommended the structure not be determined NRHP eligible because "its design, age, tradition or symbolic value has not invested it with its own significance." On 14 April 2003 the WSDOT determined the marker not NRHP eligible, and the Washington SHPO agreed 10 February 2004. Since the monument does not appear to possess aesthetic values of the period of its creation; nor has it defined the historic identity of the area; nor has it come to symbolize the values, ideas, or contributions valued by the generation that erected it, the marker is not eligible for inclusion in the NRHP meeting the requirements of Criteria Consideration F: Commemorative Properties. In addition, the monument has been moved from its original construction location. According to a 1971 WSDOT plan map for the new bridge on SR 167, the marker was shown as "Relocated," either previous to, or a part of, the planned bridge construction. During the Indian War of 1855-56 in Western Washington, soldiers with the 4th Infantry under US Army Capt. Maurice Maloney built a blockhouse in the vicinity of the present historical marker to protect the Carson Ferry. Standing on the north bank of the Puyallup River, the blockhouse apparently consisted of a two-story log building with the upper story overhanging an unusually low main floor. It was named for Capt. Maloney, who was born in Ireland ca. 1812. He had begun his Army career when he enlisted as a private in 1836; was commissioned a second lieutenant in 1846, and fought in the Seminole War and at the Battle of Chapultepec in the Mexican War. For a brief time during the Indian War of 1855-56, he was the commanding officer of Fort Steilacoom. While in the Pacific Northwest, Maloney commanded Co. A of the 4th Infantry at Forts Steilacoom and Chehalis, and at Camp Montgomery. During the Civil War, he was promoted to the rank of major in 1862 and commanded siege guns at Vicksburg in 1863. Known as Battery Maloney, the position is today known as Maloney's Circle in Vicksburg National Military Park. In 1865 Maloney was promoted to colonel and commanded the 13th Wisconsin Volunteers. Maloney retired in 1870 and died in Green Bay, Wisconsin, in January 1872.

Description of Physical Appearance:

Standing ca. 7 meters south of the N. Levee Road fog line and ca. 45 meters west of the stop sign at the intersection of N. Levee Road and the SR 167 southbound lanes is a mortared cobblestone pyramid on a ca. 7 ft square concrete base. Four granite slabs have been attached to the upper face of each of the pyramid's sides. The stone plaques read:

"ONE NIGHT IN OCTOBER 1855, ABRAHAM SALATAT, AN INDIAN, RODE THROUGH THE PUYALLUP VALLEY WARNING WHITE SETTLERS THAT A WAR PARTY OF INDIANS WAS COMING.

IN 1855 UNDER TERRITORIAL CHARTER JOHN CARSON BUILT A TOLL BRIDGE HERE. IT WAS CARRIED AWAY BY FLOODS DURING THE WINTER OF 1862-63.

IN FEBRUARY 1856 U.S. SOLDIERS ERECTED FORT MALONEY HERE TO PROTECT THE JOHN CARSON FERRY. THE SUMMER OF 1861 MRS. E. L. CARSON TAUGHT SCHOOL AT FORT MALONEY.

MILITARY ROAD FROM STEILACOOM TO BELLINGHAM CROSSED PUYALLUP RIVER HERE 1864. FIRST TELEGRAPH LINE THROUGH STATE WAS STRUNG OVER THIS ROAD. WASHINGTON STATE HISTORICAL SOCIETY, 1925."



Historic Inventory Report

Major
Bibliographic
References:

Bonney, W.P. "Monument Unveiled in Puyallup." Washington Historical Quarterly, Vol. 17, No. 1. January 1926, pp. 36-38.

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Forts of Washington Website: <http://themossback.tripod.com/forts/forts2.htm>.

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Whitney, Thomas. Fort Malone Historical Marker NRHP Determination of Eligibility. 14 April 2003.

Washington State Department of Transportation. Plan map for new bridge on SR 167. Sheet 49 of 202 sheets. Bridge Engineering Information System (BEIS), on line, Olympia. 11 February 1971.

"Work Commenced on Concrete Marker." Puyallup Valley Tribune, 17 October 1925, p. 1.



Historic Inventory Report

Photos



Marker to West
2012



Monument to SE, with SR 167 bridges over Puyallup River behind.
2012



Marker to West
2012



Plaque on east side of marker
2012



Historic Inventory Report

Location

Field Site No. DAHP No.

Historic Name: North Bank Puyallup River Revetment

Common Name:

Property Address: 0000 Meridian St N, Puyallup, WA 98424

Comments:

Tax No./Parcel No.

Plat/Block/Lot

Acreage

Supplemental Map(s)

Township/Range/EW	Section	1/4 Sec	1/4 1/4 Sec	County	Quadrangle
T20R04E	22			Pierce	PUYALLUP

Coordinate Reference

Easting: 1194611

Northing: 686971

Projection: Washington State Plane South

Datum: HARN (feet)

Identification

Survey Name: Puyallup River Bridge 167/20E Project Date Recorded: 06/08/2012

Field Recorder: Craig Holstine

Owner's Name: Pierce County Public Works

Owner Address:

City: Tacoma

State: WA

Zip:

Classification: Structure

Resource Status:

Comments:

Survey/Inventory

Within a District? Not Identified

Contributing? No

National Register:

Local District:

National Register District/Thematic Nomination Name:

Eligibility Status: Not Determined - SHPO

Determination Date: 1/1/0001

Determination Comments:



Historic Inventory Report

Description

Historic Use: Government - Public Works	Current Use: Government - Public Works		
Plan: Other	Stories: 0		
Changes to Plan: Intact	Structural System: Mixed		
Changes to Original Cladding: Not Applicable	Changes to Interior: Not Applicable		
Changes to Other:	Changes to Windows: Not Applicable		
Other (specify):			
Style:	Cladding:	Roof Type:	Roof Material:
None	Stone - Cobble Stone	None	None
Foundation:	Form/Type:		
Concrete - Poured	Utilitarian		

Narrative

Study Unit	Other
Politics/Government/Law	
Date of Construction:	1971 Built Date
	Builder:
	Engineer:
	Architect:

Property appears to meet criteria for the National Register of Historic Places: No

Property is located in a potential historic district (National and/or local): No

Property potentially contributes to a historic district (National and/or local): No



Historic Inventory Report

Statement of Significance:

Typical of Western Washington rivers, the Puyallup has over-spilled its banks and, in historic times, flood control structures with great regularity. Subsequent to massive flooding in December 1906, Pierce and King counties agreed to form taxing districts to support flood control efforts. Construction of dams, dikes, levees and revetments began in 1914 under the auspices of the Inter-County River Improvement organization (Roberts 1920). Flood waters remained undaunted, however, topping and undermining new facilities; in 1917 and 1933 floods destroyed most existing structures, which were subsequently rebuilt over the years. Even construction of Mud Mountain Dam in the 1940s failed to prevent periodic high-water damage (Dorpat and McCoy 1998:259-61). Today the counties continue to replace rock on existing revetments. In 2009 the City of Puyallup placed riprap atop the north bank revetment in an unsuccessful attempt to keep flood waters and debris off the roadway leading to North Levee Road (Dixon). The rock revetment on the north bank of the Puyallup River under the SR 167 bridges is the most recent iteration of earlier flood barriers. By 1915 the oxbow meanders immediately upstream and downstream of the older bridge had been eliminated, forcing the river into its present channel now crossed by the highway bridges (Kroll 1915). Presumably a revetment was built at that time to stabilize the north bank. A ca. 1924 design drawing of the 1925-built bridge does not show any flood control structures under the approaches or around the piers (Caldwell drawing, BEIS). Two later, although undated, photos show the 1925-built bridge atop massive concrete levees on both banks of the river (Dorpat and McCoy 1998:264; WSDOT Bridge and Structures Office). Those levees do not presently exist under the two SR 167 bridges. The levee on the south bank is still in place a short distance downstream from (west of) the newer (1971-built) bridge, and although not visible, may still be in place upstream and downstream from the bridges on the north bank. In 1950 the US Army Corps of Engineers rebuilt revetments and levees when the river's channel capacity was increased, and some of that work may have involved the structures under the bridges. A reconfiguration of flood control structures could have been at least part of the reason the approaches to the 1925-built bridge were rebuilt in 1951 (CARDEX file, WSDOT Bridge and Structures Office; Stevens 1951).

The north-bank revetment appears to be of recent construction, with rocks probably larger than early trucks and construction equipment could easily have moved into place. A Pierce County Public Works official believes it has been rebuilt in the recent past (Dixon). A 1971 "Plan" drawing for the new bridge shows "Top of Exist. Concrete Slope Protection" on the river's north bank where the present roadway accessing North Levee Road passes under the bridges (WSDOT 1971). The present revetment apparently dates to the 1971 bridge construction or sometime thereafter when the earlier flood control structure was either removed or covered by a new structure. Thus the original revetment or levee in this location has lost integrity of materials, workmanship, and feeling (if not design), and is not NRHP eligible.

Description of Physical Appearance:

A revetment consisting of boulders up to two feet in diameter stacked at an angle greater than 45 degrees armors the north bank of the Puyallup River under the SR 167 bridges. (No similar revetment exists on the south bank of the river under the bridges, although revetments and levees exist beyond the SR 167 right-of-way both upstream and downstream.) The revetment rises approximately 8 feet above an inclined base of similar sized boulders that extends into the river. Unconsolidated boulders, rocks and gravels have been dumped atop the revetment to add protection to the roadway under the bridges connecting North Levee Road with northbound traffic off the 1925-built bridge. Extending beyond the bridges in both directions for undetermined distances, the revetment has been built up around the piers of both the 1925-built and 1971-built bridges, suggesting its installation being contemporaneous with, or after, the latter bridge's construction date.



Historic Inventory Report

Major Bibliographic References:

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<http://content.wsulibs.wsu.edu/cdm/singleitem/collection/maps/id/887/rec/27>.

Roberts, W.J. Report of W.J. Roberts, Chief Engineer Inter-County River Improvement, on White-Stuck and Puyallup River in King and Pierce County, Washington, Period January 1914 to December 31, 1919. Published by King and Pierce Counties. Copy in Washington State Library, January 1920.

Stevens, George. Secondary State Highway No. 5-D, Puyallup River Bridge No. 5D-1 "Layout" drawing. BEIS, 6 March 1951.

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Historic Inventory Report

Photos



North bank revetment under SR 167 bridges
2012



N. bank revetment under SR 167 bridges
2012



Revetment wall on N. bank Puyallup River, view to east
2012



Riprap atop north bank Puyallup River Bridges revetment
2012



Historic Inventory Report

Location

Field Site No. **DAHP No.**

Historic Name: Paul A. Lindsay House

Common Name:

Property Address: 1029 Meridian St N, Puyallup, WA 98371

Comments:

Tax No./Parcel No. 0420223045

Plat/Block/Lot

Acreage

Supplemental Map(s)

Township/Range/EW	Section	1/4 Sec	1/4 1/4 Sec	County	Quadrangle
T20R04E	22			Pierce	PUYALLUP

Coordinate Reference

Easting: 1194613

Northing: 685830

Projection: Washington State Plane South

Datum: HARN (feet)

Identification

Survey Name: Puyallup River Bridge 167/20E Project

Date Recorded: 06/08/2012

Field Recorder: Craig Holstine

Owner's Name: Northeast Corner Properties LLC

Owner Address: POB 538

City: Puyallup

State: WA

Zip: 98371

Classification: Building

Resource Status:

Comments:

Survey/Inventory

Within a District? No

Contributing? No

National Register:

Local District:

National Register District/Thematic Nomination Name:

Eligibility Status: Not Determined - SHPO

Determination Date: 1/1/0001

Determination Comments:



Historic Inventory Report

Description

Historic Use: Domestic - Single Family House

Current Use: Domestic - Single Family House

Plan: Rectangle

Stories: 1

Structural System: Braced Frame

Changes to Plan: Intact

Changes to Interior: Extensive

Changes to Original Cladding: Intact

Changes to Windows: Intact

Changes to Other:

Other (specify):

Style:

Cladding:

Roof Type:

Roof Material:

Vernacular

Shingle - Coursed

Gable - Side Gable

Asphalt / Composition

Foundation:

Form/Type:

Concrete - Poured

Single Family - Side Gable

Narrative

Study Unit

Other

Architecture/Landscape Architecture

Date of Construction:

1940 Built Date

Builder:

Engineer:

Architect:

Property appears to meet criteria for the National Register of Historic Places:No

Property is located in a potential historic district (National and/or local): No

Property potentially contributes to a historic district (National and/or local): No

**Statement of
Significance:**

Although the house retains much of its exterior integrity, it lacks architectural distinction and is not eligible for inclusion in the National Register of Historic Places. Installation of vinyl windows has compromised that integrity, most prominently on the structure's primary façade. Pierce County Assessor-Treasurer's information shows the house's construction date as 1955. However, given the house's style and construction, it seems likely it was built earlier. The City Directory indicates that Paul A. Lindsay, a janitor at Maplewood School, and his wife Adolphine lived at this address in 1947. By 1950 Lindsay had become a teacher at the school. Despite his probable salary increase, it seems unlikely that the Lindsays would have built a new house here five years later. They continued living in the house at least through 1961.



Historic Inventory Report

**Description of
Physical
Appearance:**

This one-story vernacular house is clad in wood shingle siding. Its side-facing gable roof is covered in composition shingles. A short brick chimney protrudes from the roof ridge, and a full-height brick chimney is on the south wall. The walk-in basement is accessible via a pedestrian door centered on the rear (east) concrete wall. Fixed windows in that wall provide light to the basement's interior. A concrete driveway off Meridian descends to a sunken gravel parking area behind the basement.

A pedestrian door opens onto a modern wood deck that extends off the rear (northeast corner) of the house. Abutting four-light windows join on the northeast corner of the house, and a matching window is on the north wall. Three-light windows are on the south and east walls. Modern vinyl slider windows are in the gables on the north and south walls. Larger vinyl slider windows flank the front entry. A small gable awning covers the two concrete steps leading to the modern front door, which is centered in the west wall facing onto Meridian Street. Corrugated plexiglass is attached to the posts supporting the front entry awning.

**Major
Bibliographic
References:**

Pierce County Assessor-Treasurer. Building Characteristics for Parcel 0420223045. On line at <http://epip.co.pierce.wa.us>.

R.L. Polk & Company. Polk's Puyallup City Directory. Seattle, 1947, 1950, and 1961.



Historic Inventory Report

Photos



West (front) & south elevations
2012



West & north elevations
2012



East (east) and south elevations
2012



West (front) elevation
2012



Historic Inventory Report

Location

Field Site No. **DAHP No.**

Historic Name: Mead M. Murray House

Common Name:

Property Address: 1103 Meridian St N, Puyallup, WA 98371

Comments:

Tax No./Parcel No. 0420223025

Plat/Block/Lot

Acreage

Supplemental Map(s)

Township/Range/EW	Section	1/4 Sec	1/4 1/4 Sec	County	Quadrangle
T20R04E	22			Pierce	PUYALLUP

Coordinate Reference

Easting: 1194652

Northing: 685929

Projection: Washington State Plane South

Datum: HARN (feet)

Identification

Survey Name: Puyallup River Bridge 167/20E Project **Date Recorded:** 06/08/2012

Field Recorder: Craig Holstine

Owner's Name: Northeast Corner Properties LLC

Owner Address: POB 538

City: Puyallup **State:** WA **Zip:** 98371

Classification: Building

Resource Status: **Comments:**

Survey/Inventory

Within a District? No

Contributing? No

National Register:

Local District:

National Register District/Thematic Nomination Name:

Eligibility Status: Not Determined - SHPO

Determination Date: 1/1/0001

Determination Comments:



Historic Inventory Report

Description

Historic Use: Domestic - Single Family House

Current Use: Vacant/Not in Use

Plan: Rectangle

Stories: 2

Structural System: Braced Frame

Changes to Plan: Intact

Changes to Interior: Unknown

Changes to Original Cladding: Intact

Changes to Windows: Intact

Changes to Other:

Other (specify):

Style:

Cladding:

Roof Type:

Roof Material:

Vernacular

Wood - Drop Siding

Gable - Side Gable

Asphalt / Composition

Foundation:

Form/Type:

Concrete - Poured

Single Family

Narrative

Study Unit

Other

Architecture/Landscape Architecture

Date of Construction:

1920 Built Date

Builder:

Engineer:

Architect:

Property appears to meet criteria for the National Register of Historic Places:No

Property is located in a potential historic district (National and/or local): No

Property potentially contributes to a historic district (National and/or local): No

Statement of Significance:

This abandoned, vernacular house retains considerable integrity of design and materials on its exterior, most notably its cladding, wood windows, and wood rain gutters. Despite the house's retention of some historic appearance, however, its deteriorated condition and lack of architectural distinction render it ineligible for inclusion in the National Register of Historic Places. In 1936 Mead M. and Wilma Murray lived in this house, which at that time was 103 N. Meridian. (Three years later it was 1003 N. Meridian; by 1947 the address had become 1103 N. Meridian.) The Murrys continued to live there at least through 1958. By 1961 Glen M. and Jean B. Freeman lived in the house. Pierce County records say the house was built in 1900. That date appears to be too early, given the style and materials used in the house's construction (especially the drop siding), and the probable age of N. Meridian Street. The roadway may not have existed in its present alignment until shortly before the Puyallup River Bridge was built in 1925. At the time of the bridge's construction, N. Meridian was an unimproved, unpaved roadway. It took action by a county commissioner and the approaching opening of the Western Washington Fair of 1925 to finally improve the street.



Historic Inventory Report

Description of Physical Appearance:

This vernacular two-story house facing N. Meridian Street is largely screened from view by maple, oak, birch and other large trees and shrubs that have overgrown the property. A side-facing gable roof with composition shingles covers the house. Gabled dormers protrude from the west-facing (front) roof. The second level is enlarged off the east-facing roof by what amounts to a large shed-roof wall dormer that extends nearly the entire length of the elevation. What appears to be original wide, horizontal wood siding covers all the house's walls. Most windows are double-hung sash, with large plate-glass windows in the west (front) and north walls. Fixed three-light windows are in the basement's concrete window wells. Brick steps access the brick-edged front porch in front of the main entry, which is recessed behind wood corner pilasters, a wide wood frieze, and a missing capital or awning. North of the front entry, the northwest corner of the house is a bumped-out bay with cornice returns shaped to function as rain gutters. Elsewhere on the house, as well as on the garage to the rear of the house, the rain gutters are wooden, although sections are extremely deteriorated or altogether missing. Under a shed-roofed awning supported by knee braces, the back door is centered on the house's rear (east) wall. Accessed by concrete steps and a small concrete porch, the door has been boarded over with plywood. South of the back entry is a recessed concrete porch. Squared wood posts with decorative capitals support the overhanging second story that covers the porch. Ten-light French doors open onto the porch from what was presumably the dining room. A corbeled and battered full-height chimney is on the house's south wall. Behind the house is a frame, single-car garage accessed by a concrete driveway off N. Meridian along the north side of the house. The garage's wide, horizontal wood siding matches that of the house, probably indicating contemporary construction. A plastic tarpaulin covers the wood-shingled gable roof. The vehicle door is missing, but a wood pedestrian door is in place on the garage's west wall, as is a 6-light fixed window. The concrete floor on the interior is intact, although the building itself is leaning to the northeast, thanks to an elm tree leaning on the garage's roof at its southwest corner.

Major Bibliographic References:

E.T. Krefting. The Puyallup Valley Directory. Puyallup, 1936 and 1939.

Pierce County Assessor-Treasurer. Building Characteristics for Parcel 0420223025. On line at <http://epip.co.pierce.wa.us>.

Puyallup Valley Tribune. "New Bridge to Open for Fair," 2/15; "Bridge Finished; Street Unpaved," 9/19; "Ball Continues To Aid in Improving Meridian," 9/26. 1925.

R.L. Polk & Company. Polk's Puyallup City Directory. Seattle, 1947, 1950, and 1961.



Historic Inventory Report

Photos



West & north elevations
2012



South elevation
2012



East and north elevations
2012



East (rear) elevation
2012



Historic Inventory Report



2012



Garage and rear of house
2012



Wood rain gutter on garage
2012



Wood rain gutter on house rear
2012

Appendix C

Biological Opinion and Update

FHWA & WSDOT, July 2012, *SR 167 Extension ESA Section 7 Formal Update*
(NMFS Tracking No. 2005/05617, Federal Aid No. BR-0167 (047))

NMFS, February 7, 2013, *Reinitiation of Endangered Species Act Section 7
Consultation for the State Route 167 Extension Project – Puyallup River Bridge
Replacement, Pierce County, Washington* (NMFS Tracking No. 2012/03666)

FHWA & WSDOT, July 2012, *SR 167 Extension ESA Section 7 Formal Update*
(USFWS Reference No. 1-3-05-F-0688, Federal Aid No. BR-0167 (047))

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U.S. Department
of Transportation

**Federal Highway
Administration**

Washington Division

Suite 501 Evergreen Plaza
711 South Capitol Way
Olympia, Washington 98501-1281
(360) 753-8480
(360) 753-9889 (FAX)
<http://www.fhwa.dot.gov/wash>

July 25, 2012
HFO-WA-4-WA-34

Michael Grady
National Marine Fisheries Service
7600 Sand Point Way NE
Seattle, WA 98115-6070

**SR 167 Extension
ESA Section 7 Formal Update
NMFS Tracking No. 2005-05617
Federal Aid No. BR-0167 (947)**

Dear Mr. Grady,

The Federal Highway Administration (FHWA) and the Washington State Department of Transportation (WSDOT) would like to reinitiate Section 7 consultation on the SR 167 extension project. The first phase of the project is scheduled for advertisement in 2013, and will include the replacement of the SR 161 Bridge over the Duwamish River.

Recent design work has resulted in project changes that differ from the description in the original Biological Assessment (BA). In the original BA, the replacement of the northbound 161 bridge would include construction of a temporary traffic detour bridge and a temporary work platform. We are now proposing to move the location of this bridge, which will reduce in-water project effects to listed species. Details are provided in the enclosure. These changes will still result in a may affect, likely to adversely affect determination for Puget Sound Chinook.

Reinitiation on this project is also required to analyze project effects to Puget Sound steelhead and Pacific entelodon, which were not listed at the time of the original consultation. The project **may affect, and is likely to adversely affect** Puget Sound steelhead, and **may affect, and is not likely to adversely affect** Pacific entelodon.

If you have any questions or require additional information, please contact me at 360-534-9744 or by e-mail at Dean.Moberg@dot.gov.

Sincerely,

DANIEL M. MATHEIS, P.E.
Division Administrator

By: Dean W. Moberg
Area Engineer

Enclosure

cc: C. Ward, OR EIS; B. Clarke, OR Project Engineer; M. Carey, HQ ESO

SR 167 Extension Project Reinitiation, July 2012

Introduction

The Federal Highway Administration (FHWA) and the Washington State Department of Transportation (WSDOT) submitted a biological assessment (BA) for the extension of State Route (SR) 167 on September 27, 2005 to the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). The extension consists of a new six-lane freeway between SR 161 and SR 509 in Pierce County, Washington. Associated project elements included numerous water crossings (including over the Puyallup River), interchanges, and riparian restoration throughout the project area.

The Services requested additional project information after the original BA submittal, which was transmitted to the Services on December 15, 2005. There were several additional information/clarification requests from the Services on stormwater, indirect effects, minimization measures, exposure pathways, and other issues prior to the issuance of the Biological Opinions (BOs). The BA concluded that project impacts would adversely affect Puget Sound Evolutionary Significant Unit (ESU) Chinook salmon, and the Coastal-Puget Sound bull trout DPS. Critical habitat for Puget Sound Chinook was designated September 2, 2005 and for bull trout on September 26, 2005, after the BA was submitted. Subsequent analyses determined that the project would adversely affect critical habitat for Chinook salmon and bull trout.

The USFWS and NMFS BOs were issued on May 31, 2007, and August 20, 2007 respectively (USFWS Ref. No. 1-3-05-F-0688, NMFS Tracking No. 2005/05617). The Services concluded that project actions would not jeopardize the continued existence of these listed species and would not cause adverse modification or destruction of the designated critical habitats in the action area.

FHWA and WSDOT are reinitiating consultation on this project because of changes to the project description and related potential impacts to listed species, and potential impacts to species that have been listed since the issuance of the BOs. These changes were discussed with the Services in a pre-BA meeting on November 17, 2011 at WSDOT Headquarters in Olympia, WA. There has been no construction on the project to date, but the majority of the right-of-way has been purchased.

WSDOT plans on advertising for the first segment of the project in May 2013. This segment will only include work on two SR 161 bridges over the Puyallup River and associated road approaches. In the original project description, the existing two-lane steel bridge would ultimately be replaced with a five-lane structure. In this phase of the work, the deteriorating two-lane steel bridge will only be replaced with a new two-lane bridge, with additional lanes

added at a later date. This work phase will not include changes to work elements in the Hylebos Creek, Surprise Lake Tributary, or Wapato Creek portions of the action area. WSDOT intends to build the project using the design-build process.

Changes to Project Description

There are currently two adjacent SR 161 bridges that cross the Puyallup River within the action area; the northbound structure is a clear-span bridge, has two lanes, is made of steel, and is deteriorating rapidly (dimensions 370' long, with wooden approach structures 100' long on either end, steel truss 22' wide, 40' above ordinary high water {OHM}). The southbound structure is 2 lanes and is made of concrete (dimensions 541' long, 36' wide, and 40' above OHM). In the original project description, the steel bridge would be replaced and the concrete bridge would be widened. To conduct the bridge replacement and widening, two temporary work trestles and one temporary detour bridge were proposed. A barge may also be needed as a work platform for up to two construction seasons.

In the original consultation, the new bridge would be located within the footprint of the existing steel bridge. It was anticipated that building two temporary work trestles and a temporary vehicular detour bridge would take 2 years of construction time, given the proposed 6-week in-water work windows (July 15-August 31). The entire construction period may take several years.

WSDOT is now proposing to put the new bridge 10' downstream of the existing concrete bridge instead of where the existing steel bridge is located. The new bridge would be 541' long, 40' wide, and at least 40' above OHM, and the bridge location, design, and construction method will change. By relocating the new structure, work can be done on the new bridge by staging equipment on the existing concrete bridge. This will reduce the extent of the temporary in-water work trestles that are needed to construct the new bridge (less pile driving), and reduce noise impacts to listed aquatic species. This would also reduce impacts to businesses on the north side of the river. The new bridge will need an in-water pier and a temporary work trestle will be needed for the pier work. The temporary trestle for the pier would be much smaller than the temporary trestle that was originally planned adjacent to the entire length of the steel bridge. Although the specific area and number of piles needed for this temporary trestle are unknown at this stage, it is anticipated that there will be a significant decrease in the over-water trestle area, a decrease in trestle time in-place in the Puyallup River, and a decrease in the number of piles needed for the pier trestle compared to the original plan. The approximate dimensions of the temporary trestle are 30' wide by 100' long, as opposed to a 30' wide trestle the full 300' width of the river. Due to the configuration of the proposed new bridge, the need for a detour bridge has been eliminated.

Work that will be done on the concrete bridge includes removing the existing sidewalk and upgrading the traffic barrier on either side of the bridge deck. No work will be done on the piers of this bridge in this phase of work.

The project will be built with the design/build process, and WSDOT would specify the location of bridge piers, bridge length/width, and touch-down points. Constructability issues would be left to the contractor within the constraints of the consultation.

An additional issue emerged after the project Environmental Assessment (EA) was completed. The existing steel bridge was not considered a historic structure in that analysis. A Section 106 analysis was recently conducted, and the State Historic Preservation Office (SHPO) determined that the steel truss bridge is historic. This bridge will remain in place until a suitable location is found for it (it cannot remain in-place for the full bridge build-out). During that interim period it would be closed to traffic and pedestrians and would not be considered a pollution generating impervious surface. Eventual bridge removal would follow the procedures outlined in the original BA.

Another question was raised in the pre-BA meeting regarding the original stormwater analysis for the SR 161 bridge area. The question was asked if the stormwater analysis had been updated for the bridge area. Potential effects from stormwater were originally analyzed using a precursor to the currently used Hi-Run model. The original analysis was conducted for the Puyallup River drainage basin, and the bridge area was a small part of the larger basin.

Additional design work on stormwater best management practices (BMPs) is in progress, and staff will be conducting a stormwater analysis as plans develop. Preliminary plans show placement of a bioinfiltration swale within the northwest bridge quadrant; this was not in the original BA plans. The two bridge outfalls will also be relocated, with no additional outfalls being constructed. Final plans will be developed by the design-build contractor, and will meet or exceed the design standards specified in the BOs, including the use of enhanced BMPs for this area. WSDOT staff will conduct an updated stormwater analysis once these plans are available.

Changes to the project description are summarized in Table 1.

Table 1. Comparison of Original and Revised Project Description Elements at the Puyallup River, SR 167, Pierce County, WA

Work Element	Original BA 2005	Revised BA 2012
New bridge location	Replace bridge within footprint of existing steel structure	Replace bridge 10' downstream of concrete bridge
New bridge construction	Maximum of 2 in-water piers, drilled shafts	1 in-water pier, drilled shafts
Existing steel bridge historical status	Not historic	Recent SHPO concurrence that steel truss bridge is historic
Existing concrete bridge work	Widen bridge from 33 to 43 feet	No widening in this phase but remove sidewalk and upgrade traffic barriers
SR 161/167 intersection	Change to full interchange	No change
Temporary structures within OHWM	3 structures: 1 trestle for work on steel bridge (maximum of 100 piles), 1 trestle for work on concrete bridge (maximum 100 piles), 1 detour bridge (maximum 100 piles)	Final design based on design build contractor, but 1 temporary trestle for steel bridge pier reduced in area and duration in water from initial plan, and temporary detour bridge eliminated. Potential reduction of estimated 100-150 in-water piles.
Pollution generating impervious surface	About 70 acres in Puyallup basin	Unchanged
Stormwater treatment	Impacts assessed at basin level. Basic and enhanced treatment to meet performance standards for total and dissolved copper, total and dissolved zinc, suspended sediment	Bioinfiltration swale proposed for NW quadrant of bridge. Stormwater analysis will be conducted once final plans are available.

Potential New Effects to Species From Changes in the Project Description and Effects on Recently Listed Species

Potential Effects to Listed Species from Changes in the Project Description

In the original consultation and subsequent updates, Puget Sound Chinook salmon was found to be adversely affected by proposed project actions, as well as Chinook critical habitat.

New Project Effects on Listed Species

The original BA described effects to Puget Sound Chinook salmon. Chinook are found within the action area in the Puyallup River and Hylebos Creek. The project changes described here only affect the Puyallup River.

Effects to those species were originally described as follows:

- Increased sedimentation and turbidity up to 300 feet downstream of in-water work;
- Potential indirect effects up to 0.25 mile from interchanges;
- Shading from temporary and permanent in-water structures;
- Underwater noise from pile driving up to 0.6 mile upstream and downstream;
- Stormwater discharges to the Puyallup River after treatment; and
- Dewatering and fish handling.

The revised project will still have the same effects, but some of the effects (underwater noise, turbidity, shading) will be reduced in magnitude for the Puyallup River portion of the action area. Although the specific construction methods will not be known until final plans are available from the design-build contractor, it is anticipated that the number of piles for temporary structures in the Puyallup River may be reduced by $\frac{1}{3}$ to $\frac{1}{2}$ from the original estimate of 300 piles. This will lead to reduced sound exposure levels for listed and Chinook salmon, fewer days with in-water pile driving and less associated turbidity, less shaded area in the river, a smaller area of impact to benthic prey organisms, and a reduced in-river area for temporary structures that may affect salmonid migration.

Recently Listed Species

There are two species that have been listed since the BOs were issued in 2007. The Puget Sound steelhead distinct population segment (DPS) was listed as threatened on 5/11/07, and the Southern Pacific eulachon DPS was listed on 3/18/10 as threatened. Critical habitat has not been proposed or designated for Puget Sound steelhead, and critical habitat was designated for eulachon on 10/20/11.

Puget Sound Steelhead

Juvenile and adult steelhead are documented in the Blair and Hylebos Waterways, the Puyallup River, and Hylebos Creek, all within the project action area. Juvenile steelhead have occasionally been observed in upper Wapato Creek tributaries, including Simons Creek, but steelhead have not been documented in Surprise Lake Tributary. The Washington Department of Fish and Wildlife (WDFW) recognizes three Puyallup River steelhead stocks: main stem Puyallup winter, White River winter, and Carbon River winter. Adult migration and spawning in the Puyallup River typically occurs from January through June. Data from the Mud Mountain Dam trap on the White River indicate that there is still a small population of summer run steelhead that run from June to October. The vast majority of outmigrant smolts exit the river system by the end of June (Berger and Williamson 2005), and are not thought to rear in the project action area because of degraded habitat conditions on the lower Puyallup River and in Hylebos Creek. It is possible that adult and juvenile steelhead may be in the action area from January through October.

Pacific Eulachon

Eulachon are rare in Puget Sound, and many previous records have now been discredited as misidentification of surf smelt and longfin smelt. Adult eulachon return to freshwater rivers (primarily the Columbia River and tributaries) to spawn from December to May in Washington. There are no known spawning rivers in Puget Sound, but adult eulachon strays have been recorded in several areas. The Lincoln Avenue wetland is connected to the Puyallup River just downstream of the action area, and was monitored for fish species presence from 1986-1989. Eulachon were found in fyke net samples at the mouth of the wetland in 1987 and 1988 (Thom et al. 1990), but spawning in the Puyallup River is not documented or expected.

There is no designated eulachon critical habitat within the project action area.

Determination of Effect

Puget Sound Chinook Salmon

The original determination indicated that the proposed project **may affect, and is likely to adversely affect** Puget Sound Chinook. This determination was based on:

- pier placement may occur in potentially suitable spawning habitat;
- juvenile Chinook salmon potentially occur in the Puyallup River throughout the year and fish handling may be necessary;
- in-water work (pile driving and potential dewatering) is proposed in the Puyallup River and Hylebos Creek, which may result in harm and behavioral disruption to the species.

The revised project with construction of a new SR 161 bridge over the Puyallup River **may affect, and is likely to adversely affect** Puget Sound Chinook, but the effects of underwater noise, turbidity, and shading from temporary in-water structures are expected to be diminished from original estimates because fewer and smaller in-water structures are anticipated.

Puget Sound Chinook Critical Habitat

The original determination indicated that the proposed project **may affect, and is likely to adversely affect** Puget Sound Chinook critical habitat. This determination was based on:

- delayed migration of adult and juvenile Chinook salmon because of replacement and widening of the bridges over the Puyallup River over an estimated 27 month period.

This phase of the project **may affect, and is likely to adversely affect** Puget Sound Chinook critical habitat. Salmon migration will continue to be delayed in this phase of the project, although the size and residence time of temporary in-water structures that may affect migration is expected to be reduced.

Puget Sound Steelhead

The proposed project **may affect, and is likely to adversely affect** Puget Sound steelhead. This determination is based on:

- juvenile and adult steelhead potentially occur in the Puyallup River and juvenile steelhead occur in Blair/Hylebos Waterways and Hylebos Creek, and fish handling will be conducted in these areas;
- elevated turbidity can be expected from various activities in the Hylebos and Puyallup basins including Hylebos Creek channel relocation, grading and filling in both basins, and riparian vegetation restoration activities. Although steelhead exposure to periods of elevated turbidity are expected to be brief because use is restricted to migration, feeding and migration timing may be affected; and
- in-water work (pile driving and potential dewatering) is proposed in the Puyallup River and Hylebos Creek, which may result in harm and behavioral disruption to the species.

Pacific Eulachon

The proposed project **may affect, but is not likely to adversely affect** Pacific eulachon based on:

- eulachon presence in the action area is based on two records from a nearby site on the Puyallup River, and regular eulachon use of the Puyallup River and other waterbodies in the action area is discountable; and
- The proposed in-water work window of July 15-August 31 does not overlap with the known spawning period for eulachon in Washington State freshwater rivers.

There will be **no effect** on eulachon critical habitat, which is not found in the project action area.

There are no additional project updates at this time, but we will keep the Services informed as developments arise.

References

Berger, A. and K. Williamson. 2005. Puyallup River Juvenile Salmonid Production Assessment Project 2004. Puyallup Tribal Fisheries Department. Puyallup, WA.

Thom, R.M., C.A. Simenstad, J. R. Cordell, D.K. Shreffler, and I. Hamilton. 1997. The Lincoln Avenue Wetland System in the Puyallup River Estuary, Washington. Wetland Ecosystem Team, Fisheries Research Institute. Annual Report to City of Tacoma.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, Washington 98115

NMFS Tracking No.:
2012/03666

February 7, 2013

Daniel M Mathis
Federal Highway Administration
Suite 501, Evergreen Plaza
711 South Capitol Way
Olympia, Washington 98501-1284

Re: Reinitiation of Endangered Species Act Section 7 Consultation for the State Route 167 Extension Project – Puyallup River Bridge Replacement. Pierce County, Washington.
(Hydraulic Unit Code 171100140599, Lower Puyallup River)

Dear Mr. Mathis:

The National Marine Fisheries Service (NMFS) reviewed your August 29, 2012 request to reinitiate consultation for Chinook salmon and Chinook salmon critical habitat and initiate formal consultation on steelhead for the State Route (SR) 167 Extension Project in Pierce County, Washington. On September 21, 2007, the NMFS completed the formal consultation on this project and issued a Biological Opinion (Opinion) (NMFS Tracking Number 2005/05617). The Opinion concluded that the proposed action would not jeopardize the continued existence of the Puget Sound (PS) Chinook salmon (*Oncorhynchus tshawytscha*) Evolutionarily Significant Unit (ESU) and is not likely to destroy or adversely modify PS Chinook critical habitat.

The August 29, 2012 letter from the Federal Highway Administrations (FHWA) was supplemented by additional information from the Washington State Department of Transportation (WSDOT) during a site visit on September 4, 2012 followed by a series of discussions and electronic correspondences until November 14, 2012. The subsequent meetings and information exchanges resulted in a refined description of changes to the original design to replace the SR 167 Puyallup River Bridge. The FHWA determined that changes to the bridge design would lessen the potential impacts on PS Chinook and PS Chinook designated critical; therefore, incidental take would not exceed the original Opinion. The NMFS agrees with this effect determination and therefore, no additional discussion on PS Chinook or PS Chinook critical habitat will be conducted in this document.

Furthermore, your letter also included a request for consultation on the PS steelhead (*O. mykiss*) Distinct Population Segment (DPS) and the Pacific eulachon (*Thaleichthys pacificus*) southern DPS. Eulachon were not listed when the Opinion was produced. The FHWA determined that the original project and this revised design would not adversely affect eulachon because they



occur very infrequently in the lower Puyallup River and none have been documented in the project action area. Thus, the effects of the project on eulachon would be discountable. The NMFS agrees with this effect determination and this species will not be discussed further in this document.

In contrast, the FHWA determined that the proposed project is likely to adversely affect PS steelhead. The NMFS agrees with this determination and initiated formal consultation on November 21, 2012.

This proposed action is funded in part by the FHWA, permitted by the U.S. Army Corp of Engineers, and is being carried out by WSDOT.

Changes to the Proposed Action

SR 167 Puyallup River Bridge

In the original consultation, the new bridge would be located on the upstream side of the existing concrete bridge but within the footprint of the existing steel bridge. It was anticipated that building two temporary work trestles and a temporary vehicular detour bridge would take two years of construction time, given the proposed 6-week in-water work windows (July 15-August 31).

The WSDOT is now proposing to construct the new bridge ten feet downstream of the existing concrete bridge instead of where the existing steel bridge is located. The new bridge will be 541 feet long, 40 feet wide, and at least 40 feet above the Ordinary High Water Mark (OHWM). With the new alignment, the new bridge can be constructed by staging equipment on the existing concrete bridge and while maintaining two-way traffic on the steel bridge. This will reduce the duration and footprint of the temporary in-water work trestles needed to construct the new bridge. The new bridge will be supported by only one in-water pier; the original design included two piers. A temporary work trestle will still be used to construct the pier but the structure will occupy a smaller portion of the left bank instead of spanning the entire width of the river. The approximate dimensions of the temporary trestle will be 30 feet wide by 100 feet long, as opposed to a 30 feet wide trestle that spanned the full 300-foot width of the river. The number of support piles is decreased from 150 piles to 60 piles. Due to the configuration of the proposed new bridge, the need for a detour bridge has been eliminated. Overall, there is no change to the 70 acres of new impervious surfaces that was originally proposed.

After the new bridge is completed and open to traffic, the deck of the existing steel truss bridge will be removed in pieces. Best Management Practices (BMPs), such as drop tarps, will be installed to prevent all loose material and slurry from entering the Puyallup River. Large cranes on either end will lift the entire bridge frame off as one unit so it may be stored away from the river until the cities of Buckley and Enumclaw and King and Pierce counties pool their funds to reuse the bridge for pedestrian paths.

Table 1. Comparison of Original and Revised Project Description Elements at the Puyallup River, SR 167, Pierce County, WA.

Work Element	Original biological assessment (BA) 2005	Revised BA 2012
New bridge location	Replace bridge within footprint of existing steel structure	Replace bridge 10 feet downstream of concrete bridge
New bridge construction	Maximum of 2 in-water piers, drilled shafts	One in-water pier, drilled shafts
Existing steel bridge historical status	Not historic	Recent SHPO concurrence that steel truss bridge is historic. The bridge, associated support structures, and approaches will be removed.
Existing concrete bridge work	Widen bridge from 33 to 43 feet	No widening in this phase but will remove sidewalk and upgrade traffic barriers
SR 161/167 intersection	Change to full interchange	No change
Temporary structures within OHWM	3 structures: 1 trestle for work on steel bridge, 1 trestle for work on concrete bridge, and 1 detour bridge (maximum 150 piles)	One, 30ft x 100ft temporary trestle reduced in area and duration in-water from initial plan, and temporary detour bridge eliminated. The number of support piles has been reduced to 60, 24-inch hollow steel piles.
Pollution generating impervious surface	About 70 acres in Puyallup basin. Total of 204 acres.	Unchanged
Stormwater treatment	Impacts assessed at basin level. Basic and enhanced treatment to meet performance standards for total and dissolved copper, total and dissolved zinc, suspended sediment	Bioinfiltration swale proposed for NW quadrant of bridge. Stormwater analysis will be conducted once final plans are available.
In-water work window	July 15 – August 31	Unchanged

Stormwater Design

The new bridge location will require relocating two stormwater outfalls. Because of the dearth of stormwater treatment design information, the NMFS requires that all stormwater will be infiltrated. If soil conditions do not allow adequate infiltration, then stormwater shall be treated using the most advanced and approved design for enhanced treatment and detention before the stormwater is allowed to enter the White River or its tributaries. The FHWA/WSDOT will provide the NMFS with their proposed stormwater treatment, Hi-RUN analysis and designs for review and approval no later than 90 days before construction begins.

Action Area of Bridge Design Change

Changing the location and size of the temporary work trestle significantly reduces the action area that is defined by underwater noise from pile driving. The original underwater noise action area extended 1,850 feet upstream and 4,200 feet downstream until the bends in the river terminated the noise. The new trestle location along the left bank and the smaller size reduces the straight line angle of underwater noise transmission to 1,500 feet upstream and 2,300 feet downstream.

At the completion of full build-out with the updated design, the footprint of the permanent structures will result in the reduction of the affected area by only using one pier to support the new bridge instead of two. The construction disturbance is estimated to be the same area and duration except for a smaller footprint of the temporary work trestle. The number of work trestle piles is expected to be reduced, thereby resulting in a shorter period of turbidity and underwater noise; however, turbid plumes may still reach 300 feet downstream of the project. There will be a temporal increase in shading while the trestle is in place and until the existing steel bridge is removed.

For this reinitiation, the effects analysis focuses specifically on the difference between the effects previously considered and those resulting from the reported changes to the proposed action presently under consideration. Changes to the SR 167 Puyallup River Bridge portion of the project are expected to have an overall reduction on the impacts to PS Chinook salmon from those considered in the original Opinion; thus, no additional impacts from these changes are expected beyond those already considered in the original consultation.

Steelhead Consultation

The FHWA and WSDOT requested to initiate formal consultation on the PS steelhead DPS. This species was listed shortly before the completion of the original consultation; however, due to the early design phase it was determined to hold off on consulting on this species until more design details were known. The change to the SR 167 bridge design are now provided; however, the remaining design aspects of the larger project as known during the original consultation still stand as the preferred design. Thus, with the exception of the changes to the SR 167 Bridge, all design and impact information provided in the original BA and biological opinion (BO) that were applicable to PS Chinook salmon are equally applicable to PS steelhead. The extent of upland and stream impacts are described in greater detail and technically supported in the original consultation and are incorporated by reference for this consultation (NMFS 2007).

Status of Listed Species

Puget Sound Steelhead

The PS steelhead DPS was listed as threatened in May 2007. In November 2011, the NMFS conducted a five-year review and concluded that the status of the listed Puget Sound Steelhead DPS has not changed substantially since the 2007 listing, and that the species should remain listed as threatened (Ford et al. 2011).

As part of the recovery planning process, NMFS convened a technical recovery team to identify historic populations and develop viability criteria for the recovery plan. On November 4, 2011, the NMFS released the technical recovery team draft report describing the historical population structure of Puget Sound steelhead for review. On August 2, 2012, the NMFS released a revised technical team draft report describing historical population structure based on public comment. In addition, the NMFS released the technical recovery team draft report describing viability criteria for Puget Sound steelhead for review. The report on viability criteria will be completed in the spring of 2013.

Steelhead are the anadromous form of *O. mykiss*. PS steelhead typically spend two to three years in freshwater before migrating downstream into marine waters. Once the juveniles emigrate, they move rapidly through Puget Sound into the North Pacific Ocean where they reside for several years before returning to spawn in their natal streams. Unlike other species of *Oncorhynchus*, *O. mykiss* are capable of repeated spawning. Averaged across all West Coast steelhead populations, eight percent of spawning adults have spawned previously. Coastal populations have a higher incidence of repeated spawning than inland populations (Busby et al. 1996). There are two types of steelhead, winter steelhead and summer steelhead. Winter steelhead sexually mature during their ocean phase and spawn soon after arriving at their spawning grounds. Adult summer steelhead enter their natal streams and spend several months holding and maturing in freshwater before spawning.

Spatial Structure and Diversity. Steelhead are located in the majority of accessible larger tributaries in Puget Sound, Hood Canal, and the eastern Strait of Juan de Fuca. Over 50 historical steelhead stocks have been identified in Puget Sound by the Washington Department of Fish and Wildlife (WDFW). The definition of individual populations of steelhead within the DPS is being developed by the PS Steelhead Technical Recovery Team (NMFS 2011). The PS steelhead BRT determined that lack of spatial structure posed moderate risk to the viability of the DPS due to reduced complexity and diminishing connectivity among populations (Hard et al. 2007). Large numbers of barriers, such as impassable culverts, together with declines in natural abundance, greatly reduce opportunities for adfluvial movement and migrations between steelhead groups within watersheds.

The PS steelhead BRT concluded that the viability of PS steelhead is at moderate risk due to the reduced life history diversity of stocks and the potential threats posed by artificial propagation and harvest in the Puget Sound (Hard et al. 2007). The winter-run steelhead is the predominant run in Puget Sound, in part because there are relatively few basins in the Puget Sound DPS with

the flow and watershed characteristics necessary to establish the summer-run life history (NMFS 2011). All summer-run stocks are depressed and concentrated in northern Puget Sound. Production of hatchery stocks that are either out-of-DPS-derived stocks (Skamania River summer run) or within-DPS stocks that are substantially diverged from local populations (Chambers Creek winter run) largely outnumber naturally-produced steelhead in many basins throughout Puget Sound.

Abundance and Productivity. The PS steelhead DPS is composed primarily of winter-run populations. No abundance estimates exist for most of the summer-run populations; all appear to be small, most averaging less than 200 spawners annually. Summer-run populations are concentrated in northern and central Puget Sound and Hood Canal. Steelhead are most abundant in northern Puget Sound, with winter-run steelhead in the Skagit and Snohomish rivers supporting the two largest populations (approximately 3,000 and 5,000 respectively). Most populations have declined in the last five years. Widespread declines in abundance and productivity in most natural populations have been caused by the following factors:

- (1) Steelhead habitat has been dramatically affected by dams in the Puget Sound Basin that eliminated access to habitat or degraded habitat by changing river hydrology, temperature profiles, downstream gravel recruitment, and movement of large woody debris.
- (2) In the lower reaches of rivers and their tributaries, urban development has converted natural areas (e.g. forests, wetlands, and riparian habitat) into impervious surfaces (buildings, roads, parking lots, etc.). This has changed the hydrology of urban streams causing increases in flood frequency, peak flow, and stormwater pollutants. The hydrologic changes have resulted in gravel scour, bank erosion, sediment deposition during storm events, and reduced summer flows (Moscrip and Montgomery 1997; Booth et al. 2002; May et al. 2003).
- (3) Agricultural development has reduced river braiding, sinuosity, and side channels through the construction of dikes and the hardening of banks with riprap. Constriction of rivers, especially during high flow events, increases gravel scour and the dislocation of rearing juveniles. Much of the habitat that existed before European immigration has been lost due to these land use changes (Beechie et al. 2001; Collins and Montgomery 2002; Pess et al. 2002).
- (4) In the mid-1990's, WDFW banned commercial harvest of wild steelhead. Previous harvest management practices contributed to the decline of PS steelhead (Busby et al. 1996). Predation by marine mammals (mainly seals and sea lions) and birds may be of concern in some local areas experiencing dwindling steelhead run sizes (Kerwin 2001).
- (5) Ocean and climate conditions can have profound impacts on steelhead populations. Changing weather patterns affect their natal streams. As snow pack decreases, in-stream flow is expected to decline during summer and early fall (Battin et al. 2007).
- (6) The extensive propagation of the Chambers Creek winter steelhead and the Skamania Hatchery summer steelhead stocks have contributed to the observed decline in abundance of native PS steelhead populations (Hard et al. 2007). Approximately 95 percent of the hatchery production in the PS DPS originates from these two stocks. The Chambers Creek stock has

undergone extensive breeding to provide earlier and more uniform spawn timing. This has resulted in a large degree of reproductive divergence between hatchery and wild winter-run fish. The Skamania Hatchery stock is derived from summer steelhead in the Washougal and Klickitat rivers and is genetically distinct from the Puget Sound populations of steelhead. For these reasons, Hard et al. (2007) concluded that all hatchery summer- and winter-run steelhead populations in Puget Sound derived from the Chambers Creek and Skamania Hatchery stocks should be excluded from the DPS. NMFS included two hatchery populations that were derived from native steelhead, the Green River winter-run and the Hamma Hamma winter-run, as part of the DPS (72 FR 26722, May 11, 2007).

Affected Populations of Puyallup/White River Puget Sound Steelhead. Information from the updated status review, Ford et al (2011)¹ indicates a widespread declining trend over much of the DPS, with data showing relatively low abundance (4 of 15 populations with fewer than 500 spawners annually) and declining trends (6 of 16 populations) in natural escapement of winter-run steelhead throughout Puget Sound, particularly in southern Puget Sound and on the Olympic Peninsula.

The WDFW recognizes three Puyallup River steelhead stocks: mainstem Puyallup winter, White River winter, and Carbon River winter. Adult migration and spawning in the Puyallup River typically occurs from January through June. Data from the Mud Mountain Dam trap on the White River and test fisheries on the lower Puyallup River document an occasional individual adult steelhead appearing at other months of the year, but only winter-run populations are recognized by WDFW. These other steelhead are likely summer-run strays from the Green and Skykomish rivers.

Both the Puyallup and White River populations of winter-run steelhead pass through the action area to spawn upstream. The juveniles out-migrate on their way to Puget Sound and the Pacific Ocean. Both populations have declined steadily since the 1980's with a precipitous decline seen at the White River trap- and- haul facility beginning in 2003 when only 163 adult steelhead were passed above Mud Mountain Dam. Data from 2005 to 2009 indicate that geometric means of natural spawners for Puyallup River winter-run and White River winter-run steelhead were 326 and 265, respectively. Redd surveys in the Puyallup River drainage during the same time appear to have similar dismal results (Puyallup Tribe 2011²). Recently, the steelhead populations have shown a slight increase, starting in 2010 with an average of 534 on the White River through the 2012 season.

In addition to the Puyallup River, juvenile and adult steelhead are also documented in the Blair and Hylebos Waterways, and Hylebos and Wapato creeks. All are within the project action area. No steelhead have been documented in the Surprise Lake Drain, which is located within the project footprint.

¹ Ford M.J. (ed.). 2011. Status review update for Pacific salmon and steelhead listed under the Endangered Species Act: Pacific Northwest. U.S. Dept. Commer., NOAA Tech. Memo. NMFS- WFSC-113, 281 p.

² Puyallup Tribal Fisheries. 2011. 2010-2011 Annual Salmon, Steelhead, and Bull Trout Report. WRIA 10: Puyallup/White River Watershed.

Effects of the Proposed Action

The Puyallup Tribe (2012)³ operates a smolt trap on the Puyallup River at river mile (RM) 10.7, just upstream of the confluence with the White River. The trap is approximately 2.4 RMs upstream from the project site. According to the most recent report, juvenile steelhead were captured from February 20, 2011 until June 19th, 2011 with nearly all captures occurring during late April to mid-June. The smolt captures characterize out-migration timing, indicating that in-water work occurring in the lower Puyallup and lower portions of tributaries from mid-July to the end of August are least likely to encounter steelhead.

Species	Life Cycle	In-Water Work Window											
		Month											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Steelhead (winter)	Adult return Puyallup R.												
	Juvenile migration												

1 = Natural origin, 2 = Hatchery origin

Additional in-water work will occur in the Blair Waterway and Hylebos Creek where juvenile and adult steelhead may occur. Adult steelhead are expected to avoid entrapment; however, juveniles may be caught within work site enclosures and dewatered sections of streams requiring removal with dip nets and electrofishing following the WSDOT (2009) fish exclusion protocol.

Handling stresses fish, increasing plasma levels of cortisol and glucose (Hemre and Krogdahl 1996; Frisch and Anderson 2000). Electrofishing can kill fish or cause physical injuries including internal hemorrhaging, spinal misalignment, or fractured vertebrae. Although potentially harmful to fish, electrofishing is intended to locate fish in the isolated work area for removal to avoid more certain injury. Ninety-five percent of fish captured and handled survive with no long-term effects, and up to five percent are expected to be injured or killed, including delayed mortality because of injury (NMFS 2003).

While the reduced footprint of the new bridge and construction techniques will greatly lessen the risk of encountering Chinook salmon as originally described, juvenile steelhead may occur in the project footprint at any time of year. The NMFS expects a small number of steelhead juveniles to be present during the in-water work window of July 15-August 31.

In-stream Habitat

Hylebos Subbasin - For up to three years, Hylebos Creek in the vicinity of the SR 167 and I-5 interchange will be diverted into a temporary diversion channel, located between SR 99 and I-5. Physical habitat conditions within the diversion channel that juvenile and adult winter-run PS steelhead will be exposed to will likely be no worse than those in the existing stream channel,

³ Puyallup Tribe of Indians. 2012. Authors: Andrew Berger, Robert Conrad, Justin Paul. Puyallup River Juvenile Salmonid Production Assessment Project 2011.

and may in fact be improved with the inclusion of large woody debris (LWD) as cover for rearing juvenile steelhead. However, the streambed of the temporary diversion probably will not stabilize during the three-year duration of the diversion and may produce excessive levels of turbidity within the 100-foot mixing zone. In addition, initially and for some period of time after construction of the temporary diversion channel, in-stream habitat will not likely support the production of invertebrate prey organisms for juvenile salmonids. However, drift of invertebrates from upstream reaches of Hylebos Creek is expected to colonize the diversion channel before the emergence of steelhead fry the following winter (Barton 1977; Chisholm and Downs 1978; Waters 1995).

The temporary diversion channel will be constructed within or immediately adjacent to the footprint of the former USG Industrial Waste site. Excavation of the diversion channel, to the same depth and gradient as the existing adjacent Hylebos Creek channel, may expose arsenic-contaminated soils and groundwater beneath the waste site. However, following construction of the Hylebos riparian restoration proposal (RRP) and the permanent relocation of Hylebos Creek, the temporary diversion channel will be abandoned and filled. For up to three years, PS steelhead, particularly rearing or migrating juveniles, will likely be exposed to extremely high soil concentrations (up to 1,400 mg/kg) and groundwater concentrations (up to 30,000 µg/L) of arsenic. Juvenile steelhead in the diversion may have additional arsenic exposure via the food web because arsenic may impact salmonid prey due to growth inhibition of algae measured at lower arsenic concentrations than are toxic to fish (Beckvar, NOS, pers. comm. 2006). Juvenile steelhead rearing in the diversion may experience additional exposure to arsenic when they reach the Hylebos Waterway, where concentrations in water and sediment are still elevated. The effect of this additional exposure is unknown. The presence of other metals in water, sediment and the food web; particularly dissolved copper and zinc from stormwater, could act additively with the arsenic to cause adverse effects at lower arsenic concentrations.

Physical habitat conditions, particularly for rearing juvenile winter-run PS steelhead, provided within the newly created 4,000-foot long by 20-foot wide Hylebos Creek channel and 5,300-foot long by 4-foot wide Surprise Lake Drain stream channels will be improved over existing, degraded in-stream and riparian conditions. Over the long-term, in-stream temperatures and sediment input should decrease; the amount of LWD, pool frequency, water quality, off-channel habitat, streambank conditions, floodplain connectivity, flow regimes and riparian reserves should all improve.

Natural stream channel stability will be achieved by allowing the stream to develop a stable dimension, pattern (meander geometry), and profile such that, over time, channel features are maintained and the stream system neither aggrades nor degrades. However, a stable dynamic stream may migrate laterally while maintaining dimension, pattern, and profile (Rosgen 1996). Lateral migration will allow for new and dynamic habitat formation. Floodplain functions and habitat forming processes must be allowed to take place over time with minimal intervention by the WSDOT, except what is necessary to ensure that the goals, objectives, and functions of the created stream channels are met. Protection of the highway infrastructure should only be contemplated when it is in imminent danger and only then using non-invasive and environmentally -friendly protective measures, such as those presented in the Integrated Streambank Protection Guidelines (Cramer et al. 2003).

Although recent sampling is limited and there are uncertainties regarding the concentration of arsenic, as well as the impact of mixtures with other potential contaminants, there is a definite risk to listed PS steelhead and other resources that will use the relocated Hylebos Creek and Surprise Lake Drain. Arsenic and copper concentrations measured between 2002 and 2006 indicate that there is the potential for significant impacts to PS steelhead, particularly those rearing or migrating in the relocated waterbodies, if elevated groundwater from the landfill migrates to the new channels (Beckvar, NOS, pers. comm. 2006). Again, juvenile steelhead in the relocated creek would have additional arsenic exposure via the food web because arsenic may impact salmonid prey due to growth inhibition of algae measured at lower arsenic concentrations than are toxic to fish.

Juvenile steelhead rearing in the relocated waterbodies may also experience additional exposure to arsenic when they reach the Hylebos waterway, where concentrations in water and sediment are still elevated. The effect of this additional exposure is unknown. The presence of other metals in water, sediment and the food web, particularly dissolved copper and zinc from stormwater, could combine with the arsenic to cause negative effects at lower arsenic concentrations.

Effects of the Proposed Action

“Effects of the action” means the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, that will be added to the environmental baseline (50 CFR 402.02). Indirect effects are those that are caused by the proposed action and are later in time, but still are reasonably certain to occur. It should be noted that the proposed project includes the indirect effects by hauling 3.7 million cubic yards of roadbed fill from up to 50 aggregate sources in Pierce and King Counties.

This section addresses those project elements the NMFS determined were likely to adversely affect steelhead.

Project Schedule

Construction of the project is expected to occur in multiple phases over a 13-year period. Temporary and permanent removal of vegetation is expected to take two years per subbasin followed by stabilization for an additional year. Placement of fill is expected to take two years per sub-basin followed by vegetative stabilization for an additional year. Construction of the RRP will occur over several years in order to accommodate the timing of various phases of the project. Construction of the Hylebos Creek RRP is expected to take two construction seasons and one year for the Surprise Lake Drain RRP. Vegetation establishment is expected to take up to ten years. Mitigation site creation is expected to take one construction season per selected site, and vegetation establishment may take up to ten years. In-water work required for many of the bridges and culverts, stream diversions and relocations is expected to take place between July 15 and August 31. Thus, construction activities occurring within the OHWM when steelhead are present may disrupt the fish during foraging and migration.

Turbidity

The area of impact is defined by water quality mixing zones not to exceed 300 feet in Puyallup River. Steelhead occurring within the mixing zone will be subjected to elevated turbidity and are expected to experience avoidance behavior, gill abrasion, and coughing.

Pile Driving

The original project intended to install up to 150 hollow steel piles to support two work trestles and a detour bridge. These structures have been reduced to a partial work trestle with up to 60 piles. At least half of these will be above the wetted channel or in water less than three feet deep. An underwater noise attenuation device will be used on those piles located in water three feet or deeper during impact proofing and is expected to achieve a minimum reduction of 10 decibels. Steelhead of all sizes that occur within 823 feet of the impact pile driving may be injured and those within 1,850 feet upstream and 4,200 feet downstream of the bridge site may be disturbed by the underwater noise.

Adverse effects on survival and fitness of exposed PS steelhead can occur even in the absence of overt injury. Exposure to elevated noise levels can cause a temporary shift in hearing sensitivity (referred to as a temporary threshold shift), decreasing sensory capability for periods lasting from hours to days (Turnpenny et al. 1994; Hastings et al. 1996). Popper et al. (2005) found temporary threshold shifts in hearing sensitivity after exposure to cumulative SELs as low as 184 dB. Temporary threshold shifts reduce the survival, growth, and reproduction of the affected steelhead by increasing the risk of predation and reducing foraging or spawning success.

Water Crossing Structures

The project entails construction, widening, removal, or replacement of 56 temporary and permanent bridges and culverts: 26 crossing Hylebos Creek, one crossing the Fife Ditch, 11 crossing Surprise Lake Drain, 14 crossing Wapato Creek, and five crossing the Puyallup River. These are described in greater detail in Appendix II and III of the original Opinion. The same outcome and potential impacts from replacing these structures that are expected for Chinook salmon are also applicable to steelhead. Prior to constructing these sites, the fish will be excluded and the stream will be dewatered. Post-construction, the natural channel-forming processes, floodplain functions, and habitat connectivity will develop and are expected to improve the habitat functions for all life stages of steelhead.

Stormwater

As identified in the original opinion, the proposed SR 167 extension project will result in a net increase of 204 acres of new PGIS. Stormwater runoff from 245 acres of new and existing PGIS will be treated.

Within the mixing zone at the end of the stormwater discharge pipe, steelhead may be exposed to elevated levels of dissolved zinc and copper and polycyclic aromatic hydrocarbons. These

contaminants can be ingested and may make juveniles incapable of using predator avoidance behavior by impairing olfactory senses. Adult steelhead may briefly pass near the mixing zone but are not expected to linger long enough to ingest harmful quantities. Adult and juvenile steelhead tend to stay mid-channel and will likely avoid the nearshore mixing zone located at edge of the channel in the Puyallup River and tributaries within the project footprint.

The FHWA and WSDOT have committed that stormwater runoff that cannot be infiltrated will receive flow control and enhanced treatment for pollutants. If sites are determined to be unsuitable for infiltration or enhanced treatment, these areas will be analyzed for their pollutant loads and dissolved zinc and copper concentrations. This information, along with a treatment plan, will be provided to the NMFS for approval a minimum of 90 days before construction begins. If the analysis predicts potential exceedences of dissolved copper and dissolved zinc concentrations, and then leads to the NMFS disapproval of the revised treatment, reinitiation of consultation is required as identified in the original Opinion Term and Condition 3.g. (page 98).

Riparian Restoration

Invasive plants will be mechanically removed or controlled using Glyphosate. This chemical can be toxic to fish; therefore, it will be judiciously applied to individual stems rather than broadcast spread to avoid overspray into streams. The proposed project includes restoring and preserving approximately 218 acres of riparian and wetland habitat, creating forested buffers along 4.4 miles of streams, and enhancing 63 acres of existing wetlands. The restoration and creation will improve water quality, provide natural shade and organic detritus, and cover for all life stages of steelhead.

Fish Handling

The new bridge pier located below the OHWM of the Puyallup River will be constructed within a caisson enclosure structure that doubles to allow working in the dry and isolates the work from fish-bearing water. The caisson resembles a large diameter tube that is vibrated into the substrate and the water is pumped out. Juvenile steelhead trapped within will be removed with dip nets as the water level lowers. Handling juvenile steelhead may be necessary when dewatering sections of Hylebos Creek, Surprise Lake Drain, Fife Ditch, and Wapato Creek. All fish exclusion will follow the WSDOT stream dewatering and fish handling protocol. The general response of fish that are trapped and removed is a period of high stress levels which dissipate after they are released, indicating that the injury is temporary. Electro-shocking may be used as a last resort to clear out fish. Up to two percent of shocked fish may die from injuries.

Bridge Shading

The new SR 167 Bridge over the Puyallup River will increase shading of the channel by approximately 3,000 square feet. The shaded area covers a portion of the channel with limited habitat features. The streambed under the proposed bridge location is primarily composed of silt, fines, and gravel and devoid of structure and holding pockets that would attract predatory species to prey on juvenile steelhead. Thus, shading from this project is not expected to increase the risk of predation on juvenile steelhead.

Substrate

Approximately 60, 24-inch hollow steel piles will be used to support the work trestle for constructing the new SR 167 Bridge. The piles will occupy 188 square feet of the Puyallup River bed during one season. This area of the channel provides limited foraging and holding habitat for steelhead; thus, the piles are not expected appreciably reduce the quality and quantity of available habitat.

Channel Restoration

Degraded portions of the Hylebos Creek and Surprise Lake Drain within the project footprint or adjacent to I-5 will be relocated. The new channels include restoring and meandering up to 4,000 linear feet in Hylebos Creek and 5,300 linear feet in Surprise Lake Drain. In the SR 167 and I-5 interchange, a portion of the Hylebos Creek will be diverted into an open channel for up to three years while the interchange and new channel are constructed. Fish passage will be maintained in the diversion channel for the duration of construction until the new channel is established. The restoration will provide channel forming processes, floodplain functions, and habitat connectivity; thus, improving habitat for rearing juvenile steelhead.

Amount or Extent of Take

Individual juvenile and adult PS steelhead use the action area for migration and/or rearing and are therefore likely to be present in the action area when adverse effects from the construction and operation of the proposed SR 167 Extension. Because these effects will injure or kill individuals of the PS steelhead DPS or adversely affect their habitat, take is certain to occur.

Incidental take caused by the adverse effects of the proposed action will include the following:

- (1) the displacement of juvenile or adult steelhead from their preferred habitat due to the loss of benthic invertebrate prey production from increased turbidity or sedimentation from upland construction or in-water work in the Puyallup River;
- (2) habitat avoidance, reduced growth or reproductive rates, and/or mortality in juvenile steelhead from the application of Glyphosate for the control of invasive plant species;
- (3) temporal loss of riparian and in-stream steelhead habitat from implementation of the RRP, construction of RRP crossing structures, and stream diversions and relocations;
- (4) delayed out-migration, inhibited smoltification, or death of juvenile steelhead rearing in relocated Hylebos Creek or Surprise Lake Drain from arsenic and copper in the areas of the proposed Hylebos subbasin RRP;
- (5) migratory or rearing behavior modification, injury, or death of juvenile or adult steelhead from elevated sound pressure levels associated with impact pile driving;

(6) elimination of habitat for the production of juvenile fish invertebrate prey from the temporary and permanent placement of in-water structures;

(7) injury or death of juvenile or adult steelhead from work area isolation or fish handling;

(8) olfactory inhibition or migratory or rearing behavior modification of juvenile or adult steelhead from stormwater BMP effluent concentrations of dissolved copper exceeding the olfactory inhibition effects threshold or dissolved zinc exceeding the behavioral effects threshold;

(9) reduction in subsurface water exchange with the Puyallup River;

Incidental take within the action area that meets the terms and conditions of this incidental take statement and is within the statutory authority of the FHWA will be exempt from the take prohibition. The NMFS anticipates that up to two juvenile or adult PS steelhead will be injured or killed due to work necessary to isolate the in-water construction areas in the Puyallup River. This estimate is based on the low probability of steelhead being present during the in-water work, but also accommodating the possibility of encountering them when enclosing the portion of the river to build the bridge pier.

Take caused by the habitat-related effects of this action cannot be accurately quantified as a number of fish because the relationship between habitat conditions and the distribution and abundance of those individuals in the action area is imprecise. In-water and riparian areas damaged by turbidity and sediment, application of Glyphosate, elevated sound pressure levels, as well as areas occupied by pilings and cofferdams are expected to recover characteristics that are favorable for rearing and migration after the project is completed. Temporary habitat impacts to in-water and riparian areas will exist from the construction of the RRP, crossing structures, stream relocation, and wetland mitigation sites until habitat functions are restored. Areas that will be filled by the columns and drilled shaft will not recover invertebrate prey production during the life of the project, but may provide other significant conservation value, such as holding or resting habitat.

The indirect effects of stormwater or other contaminants exceeding the effects thresholds in the relocated Hylebos Creek, Surprise Lake Drain, and the Hylebos subbasin RRP, and the increased PGIS will harm individuals for the life of the project - a type of take that can be more deleterious than the direct loss of individuals during the construction phase. In such circumstances, the NMFS uses the causal link established between the activity and a change in habitat conditions affecting the listed species to describe the extent of take as a quantifiable level of habitat disturbance.

Take is exempted for:

1. the area of temporary water quality degradation, not to exceed five Nephelometric Turbidity Units above background levels for no more than three days, within 300 feet of in-water construction activities in the Puyallup River, and within 100 feet of in-water construction activities in Surprise Lake Drain and Hylebos Creek, or within 200 feet of

in-water construction activities in Hylebos Creek if significant rainfall during the in-water work window results in discharges in excess of 10 cfs;

2. impact pile installation without sound attenuation only as necessary to determine baseline SPLs and only as specified in the hydroacoustic monitoring plan;
3. the area of SPLs:
 - a. in excess of 180 dB_{peak} due to impact pile proofing with approved sound attenuation where physical injury or death of listed fish can be expected to occur; up to 144 feet of the estimated 210-foot wetted width of the Puyallup River up to 72 feet up- or downstream of the pile driver;
 - b. in excess of 150 dB_{rms} due to impact pile proofing with approved sound attenuation where behavioral modification of listed fish can be expected to occur; the entire estimated 210-foot wetted width of the Puyallup River up to 1,500 feet upstream and 2,300 feet downstream of the pile driver;
4. the 3,000 square feet of shading and 188 square feet of streambed habitat affected by the placement of the temporary work trestle and the 100 square feet of in-water habitat eliminated by the placement of permanent drilled shaft pier structures;
5. stormwater discharges in Hylebos Creek only when the concentration of dissolved copper does not exceed 4.06 µg/L and the concentration of dissolved zinc does not exceed 37.68 µg/L immediately outside the mixing zones (300 feet long downstream by 25 percent of the stream width during the seven day average low flow that has a 10 percent chance of occurring in any given year);
6. stormwater discharges in the Puyallup River only when concentrations of dissolved copper do not exceed 2.3 µg/L over background levels not exceeding 3.0 µg/L and concentrations of dissolved zinc do not exceed 5.6 µg/L over background levels between 3.0 µg/L and 13.0 µg/L at a distance no greater than 1.5 feet from the WSDOT stormwater outfall.

The estimated number of fish entrained during work area isolation, the extent of in-water and riparian habitats that will be harmed by construction, the area of elevated SPLs from impact pile driving, and stormwater BMP effluent concentrations exceeding effects thresholds at identified distances from the stormwater outfalls are thresholds for reinitiating consultation. Exceeding any of these limits will trigger the reinitiation provisions of this Opinion.

While the listing of PS steelhead and changes to the proposed design cause changes in the amount and extent of take, they do not change the NMFS' opinion that the proposed action is not likely to jeopardize the continued existence of PS Chinook salmon and PS steelhead or destroy or adversely modify PS Chinook salmon designated critical habitat. Additionally, the changes to

the bridge design are expected to reduce impacts to the Essential Fish Habitat for Chinook salmon, coho salmon, and pink salmon.

Reasonable and Prudent Measures

Reasonable and prudent measures (RPMs) are nondiscretionary measures to avoid or minimize take that must be carried out by cooperators for the exemption in Section 7(o) (2) to apply. The FHWA has the continuing duty to regulate the activities covered in this incidental take statement where discretionary Federal involvement or control over the action has been retained or is authorized by law. The protective coverage of Section 7(o)(2) will lapse if the FHWA fails to exercise its discretion to require adherence to terms and conditions of the incidental take statement, or to exercise that discretion as necessary to retain the oversight to ensure compliance with these terms and conditions. Similarly, if any applicant fails to act in accordance with the terms and conditions of the incidental take statement, protective coverage will lapse.

The NMFS believes that full application of minimization measures included as part of the proposed action, together with use of the reasonable and prudent measures and terms and conditions described below, are necessary and appropriate to minimize the likelihood of incidental take of listed species due to completion of the proposed action. The NMFS believes the RPMs from the original Opinion, as described below, are applicable to avoid and minimize impacts to PS steelhead. The Terms and Conditions associated with each of the RPMs are equally appropriate for PS steelhead and are incorporated by reference from page 94 – page 99 of the original Opinion.

The FHWA shall:

1. Minimize incidental take from riparian and in-water work;
2. Minimize incidental take from elevated Sound Pressure Levels (SPLs) due to impact pile installation and/or proofing;
3. Minimize incidental take from water quantity, water quality, and sediment quality degradation; and
4. Ensure completion of a monitoring and reporting program to confirm that the Terms and Conditions in this Incidental Take Statement are effective in avoiding and minimizing incidental take from permitted activities.

NOTICE: If a sick, injured or dead specimen of a threatened or endangered species is found in the project area, the finder must notify NMFS through the contact person identified in the transmittal letter for this Opinion, or through the NMFS Office of Law Enforcement at (800) 853-1964, and follow any instructions. If the proposed action may worsen the fish's condition before NMFS can be contacted, the finder should attempt to move the fish to a suitable location near the capture site while keeping the fish in the water and reducing its stress as much as possible. Do not disturb the fish after it has been moved. If the fish is dead, or dies while being captured or moved, report the following information: (1) NMFS consultation number; (2) the date, time, and location of discovery; (3) a brief description of circumstances and any information that may show the cause of death; and (4) photographs of the fish and where it was

found. NMFS also suggests that the finder coordinate with local biologists to recover any tags or other relevant research information. If the specimen is not needed by local biologists for tag recovery or by NMFS for analysis, the specimen should be returned to the water in which it was found, or otherwise discarded.

NOTICE: To follow inactive projects and, if necessary, withdraw the opinion for an incomplete project, the FHWA shall provide an annual report even if no actual work was completed in a particular year.

Conclusion

The change of the bridge construction design and location is expected to reduce short- and long-term impacts on PS Chinook salmon and their critical habitats from that which was already considered in the original Opinion. These changes include reducing the number and duration of in-water piles, area of temporary shading as well as temporary and permanent streambed impacts, and the extent of underwater noise disturbance.

Pile driving, fish exclusion, and stream diversions are expected to temporarily impact steelhead in the lower Puyallup River and its tributaries. However, these actions are timed to avoid nearly all migrating adults and juveniles. Stormwater treatment facilities have not been designed yet; however, all stormwater runoff within the project footprint will be infiltrated where practicable. Where this isn't possible, stormwater will receive enhanced treatment and flow control using the most effective treatment design to prevent pollutants from entering streams in the lower Puyallup River basin.

If you have questions regarding this consultation, please contact Michael Grady of the Washington State Habitat Office at (206) 526-4645, or by electronic mail at Michael.Grady@noaa.gov.

Sincerely,



William W. Stelle, Jr.
Regional Administrator



References

- Battin, J., M. W. Wiley, M. H. Ruckelshaus, R. N. Palmer, E. Korb, K. K. Bartz, and H. Imaki. 2007. Projected impacts of climate change on salmon habitat restoration. *Proceedings of the National Academy of Sciences, USA* 104(16):6720-6725.
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- Puyallup Tribe of Indians. 2012. Authors: Andrew Berger, Robert Conrad, Justin Paul. Puyallup River Juvenile Salmonid Production Assessment Project 2011.



U.S. Department
of Transportation

**Federal Highway
Administration**

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July 25, 2012

HEC-WA,4 WA 34

Mr. Ken Berg
U.S. Fish and Wildlife Service
519 Desmond Drive SE, Suite 102
Lacey, WA 98503

**SR 167 Extension
ESA Section 7 Formal Update
USFWS Reference No. 1-3-05-F-0688
Federal Aid No. BR-0167 (047)**

Dear Mr. Berg:

The Federal Highway Administration (FHWA) and the Washington State Department of Transportation (WSDOT) have recently updated information for the State Route (SR) 167 extension project. The first phase of the project is scheduled for advertisement in 2013, and will include the replacement of the SR 161 Bridge over the Puyallup River.

Recent design work has resulted in project changes that differ from the description in the original biological assessment (BA). This letter documents those changes. Although the changes to the project will still result in a **may affect, likely to adversely affect** determination for bull trout, the extent and duration of in-water effects on bull trout have been reduced. The changes to the project description that we discuss here are for your records and we are not requesting reinitiation at this time. We are reinitiating our consultation with the National Marine Fisheries Service (NMFS) and are adding two species that were not listed at the time of the original consultation, Puget Sound steelhead and Pacific cutthroat.

FHWA and WSDOT submitted a BA for the extension of SR 167 on September 27, 2005 to the U.S. Fish and Wildlife Service (USFWS) and the NMFS. The extension consists of a new six-lane freeway between SR 161 and SR 509 in Pierce County, Washington. Associated project elements included numerous water crossings (including an improved crossing of SR 161 over the Puyallup River), interchanges, and riparian restoration throughout the project area.

The Services requested additional project information after the original BA submittal, which was transmitted to the Services on December 15, 2005. There were several additional information clarification requests from the Services on stormwater, indirect effects, minimization measures, exposure pathways, and other issues prior to the issuance of the Biological Opinions.

(BOs). The BA concluded that project impacts would adversely affect the Coastal-Puget Sound bull trout DPS. Critical habitat for Puget Sound Chinook was designated September 2, 2005 and for bull trout on September 26, 2005, after the BA was submitted. Subsequent analyses determined that the project would adversely affect critical habitat for bull trout.

The USFWS and NMFS BOs were issued on May 31, 2007, and August 20, 2007, respectively (USFWS Ref. No. 1-3-05-F-0688, NMFS Tracking No. 2005/05617). The Services concluded that project actions would not jeopardize the continued existence of these listed species and would not cause adverse modification or destruction of the designated critical habitats in the action area.

FHWA and WSDOT are updating project information because of changes to the project description and related potential impacts to listed species. These changes were discussed with the Services in a pre-BA meeting on November 17, 2011, at WSDOT Headquarters in Olympia, WA. There has been no construction on the project to date, but the majority of the right-of-way has been purchased.

WSDOT plans on advertising for the first segment of the project in May 2013. This segment will only include work on two SR 161 bridges over the Puyallup River and associated road approaches. In the original project description, the existing two-lane steel bridge was to ultimately be replaced with a five-lane structure. In this phase of the work, the deteriorating two-lane steel bridge will be replaced with a new two-lane bridge, and additional lanes added utilizing the footprint of the two existing bridges at a later date. This work phase will not include changes to work elements in the Hylebos Creek, Surprise Lake Tributary, or Wapato Creek portions of the action area. WSDOT intends to build this project phase using the design-build process.

Changes to Project Description

There are currently two adjacent SR 161 bridges that cross the Puyallup River within the action area; the northbound structure is a clear-span bridge, has two lanes, is made of steel, and is deteriorating rapidly (dimensions 370' long, with wooden approach structures 100' long on either end, steel truss 22' wide, 40' above ordinary high water {OHM}). The southbound structure is 2 lanes and is made of concrete (dimensions 541' long, 36' wide, and 40' above OHM). In the original project description, the steel bridge was to be replaced and the concrete bridge widened. To accomplish the bridge replacement and widening, two temporary work trestles and one temporary detour bridge were proposed. A barge would likely have been needed as a work platform for up to two construction seasons.

In the original consultation, the new bridge was to be located utilizing an expanded footprint of the existing steel bridge. It was anticipated that building two temporary work trestles and a temporary vehicular detour bridge would take 2 years of construction time, given the proposed 6-week in-water work windows (July 15-August 31). The entire construction period would likely have taken several years.

WSDOT is now proposing to put a new bridge 10' downstream of the existing concrete bridge instead of where the existing steel bridge is located. The new bridge will be 541' long, 40' wide, and at least 40' above OHM, and the bridge location, design, and construction method will

change. By relocating the new structure, work can be done on the new bridge by staging equipment on the existing concrete bridge. This will reduce the extent of the temporary in-water work trestles that are needed to construct the new bridge (less pile driving), and reduce noise impacts to listed aquatic species. This will also reduce impacts to businesses on the north side of the river. The new bridge will require an in-water pier and a temporary work trestle will be needed for that pier work. The temporary trestle for the pier will be much smaller than the temporary trestle originally planned adjacent to the entire length of the steel bridge. Although the specific area and number of piles needed for this temporary trestle are unknown at this stage, it is anticipated that there will be a significant decrease in the over-water trestle area, a decrease in trestle time in-place in the Puyallup River, and a decrease in the number of piles needed for the pier trestle compared to the original plan. The approximate dimensions of the temporary trestle are 30' wide by 100' long, as opposed to a 30' wide trestle the full 300' width of the river. Due to the configuration of the proposed new bridge, the need for a detour bridge has been eliminated. To complete the work at some future time, a new five lane structure will be constructed utilizing the foot print of the two existing SR 161 Puyallup River crossings.

Interim work that will be done on the concrete bridge includes removing the existing sidewalk and upgrading the traffic barrier on either side of the bridge deck. No work will be done on the piers of this bridge in this phase of work.

The project will be built with the design/build process, and WSDOT would specify the location of bridge piers, bridge length/width, and touch-down points. Constructability issues would be left to the contractor within the constraints of the consultation.

An additional issue emerged after the project Environmental Assessment (EA) was completed. The existing steel bridge was not considered a historic structure in that analysis. A Section 106 analysis was recently conducted, and the State Historic Preservation Office (SHPO) determined that the steel truss bridge is historic. This bridge will remain in place until a suitable location is found for it, either interim or permanent. The existing steel bridge cannot remain in-place for the full project build-out. During that interim period it will, at a minimum, be closed to traffic and pedestrians and would not be considered a pollution generating impervious surface. Eventual bridge removal will follow the procedures outlined in the original BA. Removal may occur as a part of this bridge replacement phase; negotiations with the SHPO are on-going.

Another question was raised in the pre-BA meeting regarding the original stormwater analysis for the SR 161 bridge area. The question was asked if the stormwater analysis had been updated for the bridge area. Potential effects from stormwater were originally analyzed using a precursor to the currently used Hi-Run model. The original analysis was conducted for the Puyallup River drainage basin, and the bridge area was a small part of the larger basin.

Additional design work on stormwater best management practices (BMPs) is in progress, and staff will be conducting a stormwater analysis as plans develop. Preliminary plans show placement of a bioinfiltration swale within the northwest bridge quadrant; this was not in the original BA plans. The two bridge outfalls will also be relocated, with no additional outfalls being constructed. Final plans will be developed by the design-build contractor, and will meet or exceed the design standards specified in the BOs, including the use of enhanced BMPs for this area. WSDOT staff will conduct an updated stormwater analysis once these plans are available.

Changes to the project description are summarized in Table 1 below.

Table 1. Comparison of Original and Revised Project Description Elements at the Puyallup River, SR 167, Pierce County, WA

Work Element	Original BA 2005	Revised BA 2012
New bridge location	Replace bridge within footprint of existing steel structure	Replace bridge 10' downstream of concrete bridge
New bridge construction	Maximum of 2 in-water piers, drilled shafts	1 in-water pier, drilled shafts
Existing steel bridge historical status	Not historic	Recent SHPO concurrence that steel truss bridge is historic
Existing concrete bridge work	Widen bridge from 33 to 45 feet	No widening in this phase but remove sidewalk and upgrade traffic barriers
SR 167/167 intersection	Change to full interchange	No change
Temporary structures within OEWB	3 structures: 1 trestle for work on steel bridge (maximum of 100 piles), 1 trestle for work on concrete bridge (maximum 100 piles), 1 detour bridge (maximum 100 piles)	Final design based on design build contract, but 1 temporary trestle for steel bridge pier reduced in area and duration in-water from initial plan, and temporary detour bridge eliminated. Potential reduction of estimated 100-150 in-water piles.
Pollution generating impervious surface	About 70 acres in Puyallup Basin	Unchanged
Stormwater treatment	Impacts assessed at basin level. Basic and enhanced treatment to meet performance standards for total and dissolved copper, total and dissolved zinc, suspended sediment	Bioinfiltration swale proposed for NW quadrant of bridge. Stormwater analysis will be conducted once final plans are available.

Potential New Effects to Species From Changes in the Project Description

In the original consultation and subsequent updates, bull trout were found to be adversely affected by proposed project actions, as well as their critical habitat. Bull trout are found in the Puyallup River and may use the mouth of Hylebos Creek. The project changes described here only affect the Puyallup River.

Primary effects to bull trout were originally described as follows:

- Increased sedimentation and turbidity up to 301 feet downstream of in-water work;
- Increased impervious surface will degrade bull trout foraging, overwintering and migrating habitat;
- Project activities will negatively affect hydrologic functions in the lower Puyallup River;
- Underwater noise from pile driving up to 0.6 mile upstream and downstream;
- Stormwater discharges to the Puyallup River after treatment; and
- Dewatering and fish handling.

The revised project will still have the same effects, but some of the effects (underwater noise, turbidity, and shading) will be reduced in magnitude for the Puyallup River portion of the action area. Although the specific construction methods will not be known until final plans are available from the design-build contractor, it is anticipated that the number of piles for temporary structures in the Puyallup River may be reduced by $\frac{1}{3}$ to $\frac{1}{2}$ from the original estimate of 300 piles. This will lead to reduced sound exposure levels for listed bull trout, fewer days with in-water pile driving and less associated turbidity, less shaded area in the river, a smaller area of impact to benthic prey organisms, and a reduced in-river area for temporary structures that may affect salmonid migration.

The original determination indicated that the proposed project **may affect, and is likely to adversely affect** bull trout. This determination was based on:

- migrating anadromous bull trout potentially occur in the Puyallup River throughout the year and fish handling may be necessary; and
- in-water work including pile driving and potential dewatering is proposed in the Puyallup River that may result in harm and behavioral disruption to the species.

The revised project with construction of a new SR 161 bridge over the Puyallup River **may affect, and is likely to adversely affect** bull trout, but the effects of underwater noise, turbidity, and shading from temporary in-water structures are expected to be diminished from original estimates because fewer and smaller in-water structures are anticipated.

Bull Trout Critical Habitat

In the original BA, it was concluded that the project **will not result in the destruction or adverse modification** of bull trout proposed critical habitat. The USFWS designated bull trout critical habitat in 2005 and then made a final revision in 2010. Definitions of the primary constituent elements (PCEs) were changed and a new ninth PCE was added in the final 2010 designation. The 2010 revision excluded from critical habitat the area on the Puyallup River within Puyallup Tribal lands. Final critical habitat within the action area is found from approximately river-mile 7.2 to 10.1; this includes the SR 161 Bridge over the Puyallup River. The Puyallup Project actions covered in the original BA and the project changes that are mentioned here were used to analyze effects to bull trout PCEs.

The revised project with construction of a new SR 161 bridge over the Puyallup River **may affect, and is likely to adversely affect** bull trout critical habitat, with an analysis of effects to each PCE below.

PCE 1: Springs, seeps, groundwater sources, and subsurface water connectivity.

There will be adverse effects to this PCE from grading, filling, and new impervious surface, which will reduce soil infiltration, reduce groundwater recharge and reduce subsurface water exchange.

PCE 2: Migration habitats with minimal impediments between spawning, rearing, overwintering, and freshwater and marine foraging habitats.

Bull trout use the action area primarily as a migration corridor. Although bull trout will be able to continue to migrate through the action area during and after the project, potential project effects could lead to slight increases in water temperature and temporary, localized turbidity. There will be a new, permanent, in-water pier for the new bridge and associated temporary in-water structures. Collectively, these could alter migration timing or cause bull trout to avoid active work areas in the Puyallup River.

PCE 3: An abundant food base.

Adult anadromous bull trout are migrating through this area and would primarily feed on other fish, including migrating juvenile salmonids. Juvenile salmonids could be affected by temporary turbidity from installation of temporary structures and a new bridge pier in the Puyallup River, as well as by increases in water temperature. Benthic organisms will also be affected by temporary structure footprint and the small, permanent pier footprint. All of these effects are considered insignificant because of the very small or temporary changes that are expected.

PCE 4: Complex river, stream, lake, reservoir, and marine shoreline aquatic environments with features such as large wood, side channels, pools, undercut banks and unembedded substrates.

All of the aquatic habitats in the action area are not properly functioning. The original design had a maximum of three in-water piers for two Puyallup River bridges (1 existing pier and 2 new piers), and the number of piers will likely be reduced. New piers and temporary work structures will have insignificant effects on complex habitat elements. There may be beneficial effects to complex habitat features from riparian and wetland restoration actions.

PCE 5: Water temperatures ranging from 36°F to 59°F with adequate refugia available for temperatures at the upper end of the range.

Water temperature in the lower Puyallup River is at the upper end of the range that bull trout can tolerate. Vegetation removal may directly elevate surface water temperature and grading/filling can indirectly affect surface water by changing groundwater flow and subsurface recharge. Although these effects may lead to increases in surface water temperature, potential riparian restoration along the Puyallup River may have beneficial effects once trees mature and can provide streambank shade.

PCE 6: Substrate of sufficient size, amount, and composition, to ensure egg, fry, young of the year, and juvenile survival.

There is no bull trout spawning habitat in the action area, including that portion of the action area within designated critical habitat. There will be no effect on spawning substrate.

PCE 7: A natural hydrograph with peak, high, low, and base flows within the historic range.

The Puyallup River continues to experience flows below the minimum standard of 1000 cubic feet per second. Peak flows have increased, probably associated with increased impervious surface in the watershed. The current conditions on the lower Puyallup represent departures from the historical conditions. Runoff from new impervious surface associated with this portion

of the project (about 70 acres) will be collected through three outfalls, two of which will discharge into the Puyallup River via the Oxbow Ditch system and one directly into the river. Enhanced treatment Best Management Practices (BMPs) are estimated to infiltrate approximately 92 percent of the runoff. Despite the proposed BMPs, peak flows may be elevated by increased impervious surface in this basin. Potential wetland mitigation may improve floodplain connectivity and attenuate peak flows.

PCE 8: Permanent water having sufficient quantity and quality such that normal reproduction, growth, and survival are not inhibited.

The Puyallup River is a perennial stream with an impaired 303(d) status for high fecal coliform bacteria levels, elevated mercury levels, and low flows. It primarily serves as a migratory corridor for bull trout. Runoff from new impervious surface associated with the project will be treated, but will further degrade water quality, adversely affecting this PCE.

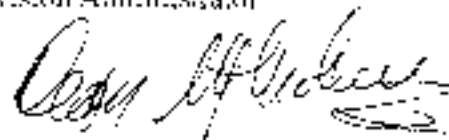
PCE 9: Sufficiently low levels of occurrence of non-native predatory (e.g., lake trout, walleye, northern pike, smallmouth bass); interbreeding (e.g., brook trout); or competing (e.g., brown trout) species that, if present, are adequately temporally and spatially isolated from bull trout.

There will be no project actions that include introduction of non-native predatory, interbreeding, or competing fish species. There will be no project actions that might affect or create migratory pathways between populations of these fish and bull trout in the Puyallup River. There will be no effect to this PCE.

There are no additional project updates at this time, but we will keep the Services informed as developments arise. If you have any questions or require additional information, please contact me at 360-534-9344 or by e-mail at Dean.Moberg@doh.wa.gov.

Sincerely,

DANIEL M. MATHES, P.E.
Division Administrator



By: Dean W. Moberg
Area Engineer

cc: C. Ward, OR EHS
B. Clarke, OR Project Engineer
M. Carey, HQ ESO

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Appendix D
Vicinity Map and Preliminary Bridge Plans

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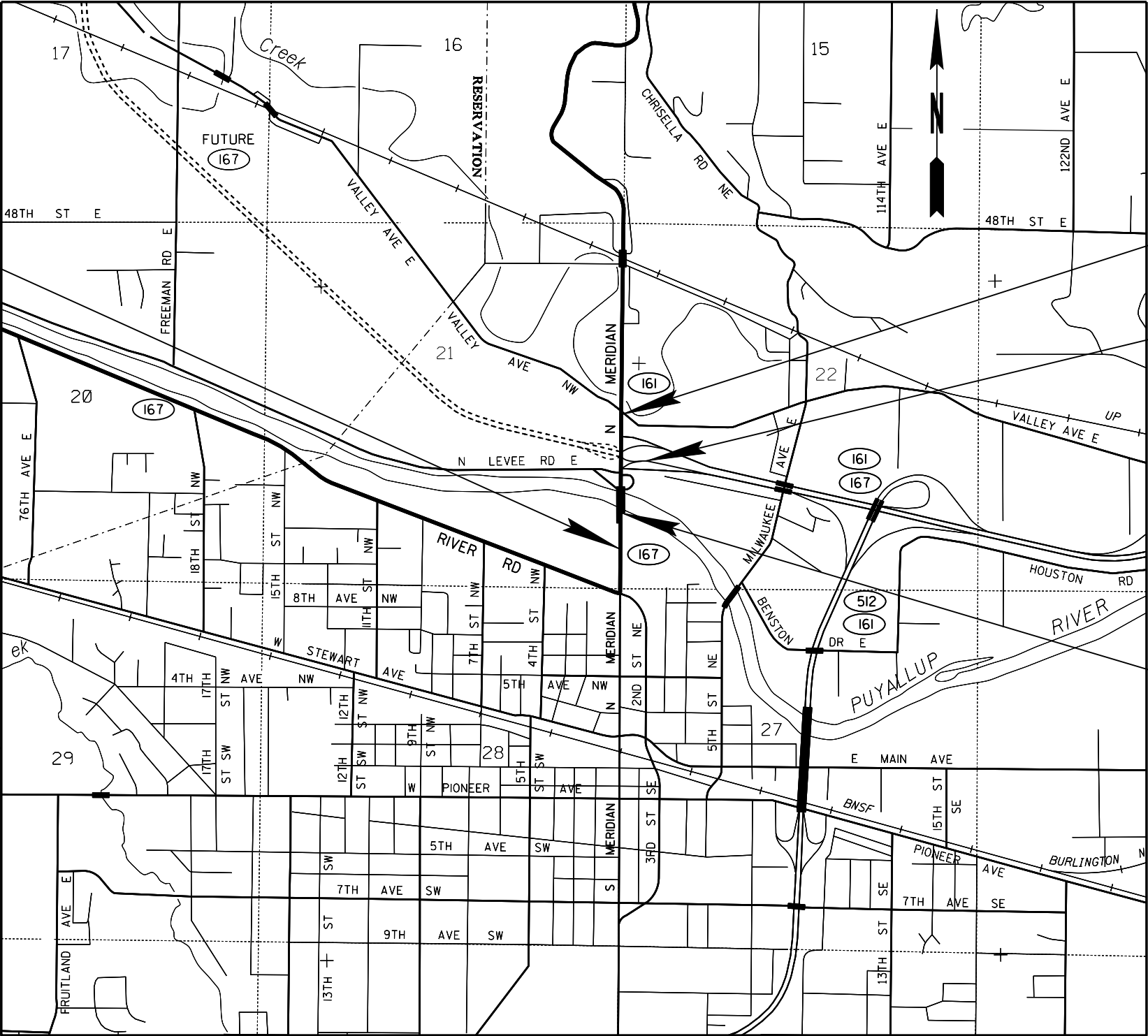
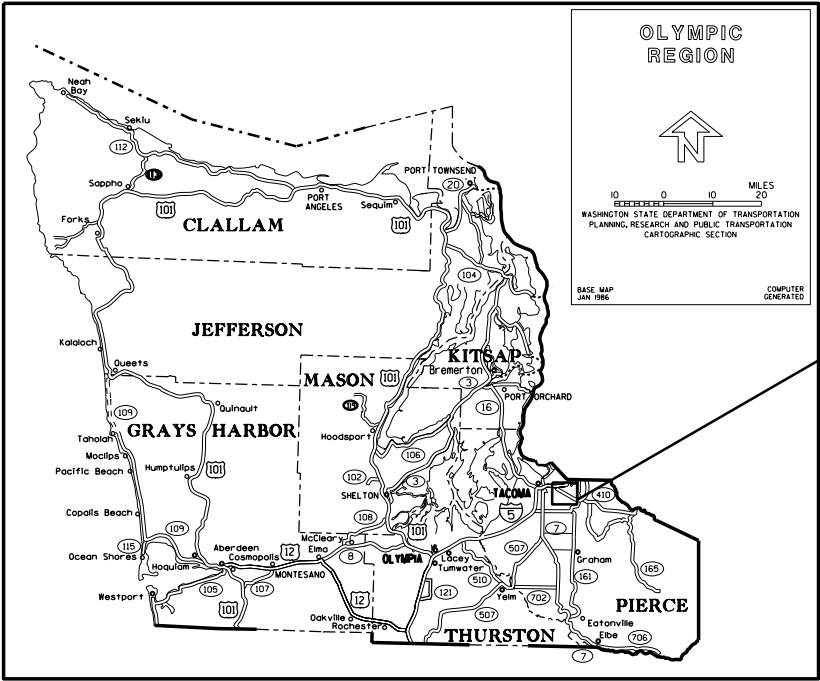
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BEGIN PROJECT
SR 167 NB MP 6.25B
STA S22+30

END NH-0167(047)
END PROJECT
SR 161 MP 28.79
STA S45+85

END NH-0167(047)
END CONSTRUCTION
SR 167 MP 5.34
EBC16 STA 13+00

INCLUDED IN PROJECT
BRIDGE NO. 167/20W
BRIDGE NO. 167/20E

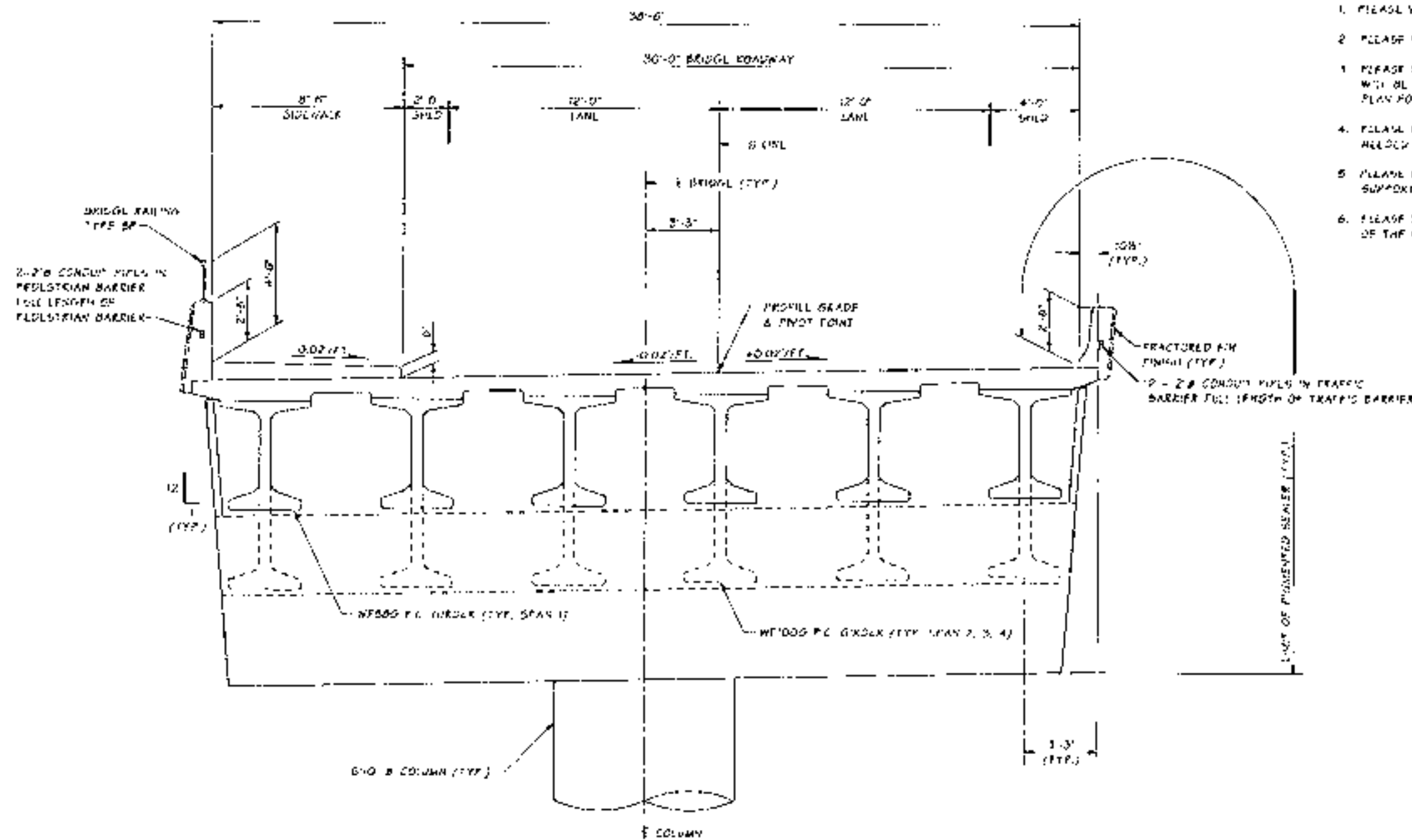


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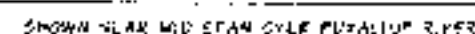
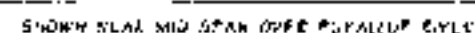
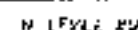
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BRIDGE
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Washington State
Department of Transportation

PRELIMINARY PLAN



PRELIMINARY PLAN

N LINE EXISTING ROADWAY			
POINT #	ELEVATION	N LINE STATION	OFFSET
11970	53.27	29+03.860	18.19
11971	53.00	30+04.900	-17.05
11972	56.01	30+20.354	-16.07
11973	56.03	30+20.685	-16.00
11974	57.18	30+30.247	-16.76
11975	57.34	30+40.564	-16.75
11976	57.65	30+50.547	-16.76
11977	58.17	30+60.483	-16.76
11978	58.45	30+70.431	-16.76
11979	58.69	30+80.928	-16.75
11980	58.93	30+90.544	-16.75
11981	59.14	31+00.601	-16.75
11982	59.34	31+10.735	-16.74
11983	59.55	31+20.394	-16.70
11984	59.75	31+30.166	-16.76
11985	59.89	31+40.906	-16.75
11986	60.02	31+50.535	-16.77
11987	60.16	31+60.200	-16.76
11988	60.31	31+70.407	-16.76
11989	60.45	31+80.201	-16.72
11990	60.58	31+90.608	-16.73
11991	60.73	32+00.428	-16.74
11992	60.81	32+10.460	-16.80
11993	60.91	32+20.390	-16.78
11994	61.01	32+30.756	-16.74
11995	61.11	32+40.370	-16.80
11996	61.17	32+50.245	-16.76
11997	61.27	32+60.478	-16.37
11998	61.30	32+70.361	-16.66
11999	61.38	32+80.475	-16.57
12000	61.37	32+90.908	-16.80
12001	61.46	33+00.564	-16.68
12002	61.50	33+10.701	-16.69
12003	61.50	33+20.474	-16.67
12004	61.49	33+30.361	-16.90
12005	61.46	33+40.444	-16.88
12006	61.43	33+50.934	-16.87
12007	61.37	33+60.575	-16.84
12008	61.20	33+70.285	-16.80
12009	61.24	33+80.636	-16.80
12010	61.10	33+90.676	-16.42
12011	61.06	34+00.636	-16.83
12012	60.98	34+10.612	-16.97
12013	60.84	34+19.625	-16.91
12014	60.65	34+27.753	-16.86
12015	60.56	34+40.673	-16.86
12016	60.40	34+50.671	-16.82
12017	60.24	34+60.854	-16.59
12018	60.04	34+70.215	-16.82
12019	59.84	34+80.710	-16.88
12020	59.61	34+90.768	-16.90
12021	59.42	35+00.670	-16.40
12022	59.17	35+13.709	-16.83
12023	58.94	35+20.629	-16.30
12024	58.71	35+30.747	-16.66
12025	58.47	35+40.773	-16.62
12026	58.24	35+50.003	-16.68
12027	57.07	35+60.440	-16.87

* ELEVATION POINT
SURVEY POINTS

N LINE EXISTING ROADWAY			
POINT #	ELEVATION	N LINE STATION	OFFSET
12028	58.64	35+73.704	-13.07
12029	58.09	36+20.541	-11.75
12030	56.04	36+20.585	-11.73
12031	56.43	36+30.687	-11.76
12032	56.78	36+40.542	-11.76
12033	57.11	36+50.520	-11.72
12034	57.47	36+60.578	-11.73
12035	57.71	36+70.566	-11.72
12036	57.90	36+80.844	-11.70
12037	58.16	36+90.576	-11.77
12038	58.4	37+00.543	-11.76
12039	58.6	37+10.577	-11.76
12040	58.78	37+20.546	-11.76
12041	58.92	37+30.579	-11.76
12042	59.11	37+40.587	-11.76
12043	59.4	37+50.300	-11.76
12044	59.78	37+60.565	-11.76
12045	60.35	37+70.554	-11.76
12046	60.62	37+80.551	-11.76
12047	60.79	37+90.595	-11.76
12048	60.88	38+00.539	-11.79
12049	60.93	38+10.490	-11.79
12050	61.03	38+20.544	-11.79
12051	61.22	38+30.482	-11.77
12052	61.37	38+40.401	-11.81
12053	61.41	38+50.440	-11.83
12054	61.52	38+60.532	-11.68
12055	61.56	38+70.501	-11.80
12056	61.6	38+80.466	-11.80
12057	61.66	38+90.379	-11.86
12058	61.86	39+00.569	-11.86
12059	62.03	39+10.460	-11.89
12060	62.73	39+20.560	-11.83
12061	62.71	39+30.568	-11.91
12062	62.78	39+40.570	-11.92
12063	62.77	39+50.604	-11.91
12064	62.73	39+60.599	-11.93
12065	62.7	39+70.536	-11.88
12066	62.65	39+80.637	-11.94
12067	62.57	39+90.611	-11.96
12068	62.5	40+00.626	-11.93
12069	62.47	40+10.680	-11.96
12070	62.3	40+20.726	-11.92
12071	62.17	40+30.733	-11.91
12072	62.04	40+40.751	-11.89
12073	61.95	40+50.737	-11.91
12074	61.86	40+60.763	-11.91
12075	61.76	40+70.773	-11.92
12076	61.65	40+80.740	-11.92
12077	61.54	40+90.766	-11.95
12078	61.43	41+00.750	-11.93
12079	61.42	41+10.713	-11.91
12080	61.49	41+20.726	-11.91
12081	61.72	41+30.727	-11.96
12082	61.99	41+40.716	-11.97
12083	62.45	41+50.707	-11.98
12084	62.21	41+60.727	-11.98
12085	62.05	41+70.690	-11.99

POINTS ALONG
FACE OF SIDEWALK

N LINE EXISTING ROADWAY			
POINT #	ELEVATION	N LINE STATION	OFFSET
11996	53.21	29+20.647	0.52
11997	55.62	29+62.003	2.40
11998	56.37	30+21.858	2.34
11999	56.77	30+51.089	2.12
12000	57.43	30+50.154	1.83
12001	58.03	30+70.316	1.95
12002	58.53	30+91.037	2.30
12003	59.20	31+10.803	1.93
12004	60.48	31+20.650	2.02
12005	60.60	31+30.786	1.94
12006	60.83	31+60.340	1.91
12007	60.94	31+80.924	1.84
12008	61.06	31+91.058	1.87
12009	61.08	32+10.977	1.80
12010	61.08	32+40.701	1.82
12011	60.94	32+60.610	1.81
12012	60.71	32+90.470	1.41
12013	60.57	33+00.231	1.39
12014	60.34	34+14.000	1.62
12015	60.35	34+14.280	1.82
12016	60.75	34+21.058	1.81
12017	60.00	34+40.611	1.66
12018	59.73	34+60.818	1.81
12019	59.35	34+80.563	1.65
12020	59.75	34+98.964	1.30
12021	58.46	35+20.706	1.66
12022	58.03	35+40.843	1.82
12023	57.34	35+50.165	1.66
12024	56.37	36+07.752	1.38

POINTS ALONG CENTER LINE
EXISTING ROADWAY

N LINE EXISTING ROADWAY			
POINT #	ELEVATION	N LINE STATION	OFFSET
11994	56.31	30+36.070	1.64
11995	56.57	30+70.077	1.76
11996	56.14	30+20.348	16.14
11997	57.01	30+30.247	16.12
11998	57.56	30+40.636	16.16
11999	57.84	30+49.824	16.15
12000	57.96	30+60.320	16.08
12001	58.20	30+69.826	16.15
12002	58.49	30+60.037	16.06
12003	58.72	30+90.627	16.11
12004	58.97	31+00.878	16.10
12005	59.14	31+09.878	16.91
12006	59.32	31+21.005	16.15
12007	59.44	31+23.299	16.10
12008	59.40	31+30.753	16.13
12009	59.43	31+31.077	16.11
12010	59.61	31+40.632	16.10
12011	59.73	31+48.308	16.16
12012	59.87	31+60.987	16.16
12013	60.02	31+76.817	16.21
12014	60.77	31+80.311	16.09
12015	60.41	31+91.854	16.03
12016	60.53	32+00.923	16.06
12017	60.64	32+11.751	16.03
12018	60.71	32+21.081	16.04
12019	60.85	32+30.744	16.00
12020	60.97	32+41.776	16.07
12021	61.06	32+51.595	16.07
12022	61.12	32+60.476	16.05
12023	61.19	32+70.615	16.04
12024	61.19	32+77.119	16.07
12025	61.20	32+77.430	16.06
12026	61.22	32+82.471	16.04
12027	61.29	32+83.467	16.04
12028	61.34	32+83.107	16.02
12029	61.33	32+89.936	16.04
12030	61.36	32+90.781	16.43
12031	61.34	33+40.955	16.99
12032	61.27	33+50.625	16.02
12033	61.17	33+60.951	16.97
12034	61.05	33+62.305	16.91
12035	61.07	33+80.502	16.01
12036	60.95	33+90.089	16.03
12037	60.79	34+01.007	16.30
12038	60.69	34+08.501	16.30
12039	60.70	34+09.030	16.88
12040	60.65	34+10.993	16.04
12041	60.30	34+23.651	16.01
12042	60.27	34+40.470	16.04
12043	60.17	34+50.666	16.01
12044	59.98	34+60.270	16.00
12045	59.82	34+70.418	16.07
12046	59.88	34+80.424	16.01
12047	59.57	34+89.187	16.00
12048	59.79	34+99.055	16.02
12049	59.04	35+10.755	16.01
12050	58.90	35+20.177	16.01
12051	58.17	35+30.579	16.02
12052	58.31	35+41.990	16.02
12053	57.35	35+54.654	16.06

POINTS ALONG
AT FACE OF CURB

Project Name: WYOMING PLANNED 1ST PUYALLUP RIVER BRIDGE/STAIR LANE		Project No: 2014		Sheet No: 4 of 4	
Submitted by: WSP	Reviewed by: WSP	Approved by: WSP	Checked by: WSP	Drawn by: WSP	Scale: AS SHOWN
Project No: 2014	Project Name: WYOMING PLANNED 1ST PUYALLUP RIVER BRIDGE/STAIR LANE	Project No: 2014	Project Name: WYOMING PLANNED 1ST PUYALLUP RIVER BRIDGE/STAIR LANE	Project No: 2014	Project Name: WYOMING PLANNED 1ST PUYALLUP RIVER BRIDGE/STAIR LANE
Project No: 2014	Project Name: WYOMING PLANNED 1ST PUYALLUP RIVER BRIDGE/STAIR LANE	Project No: 2014	Project Name: WYOMING PLANNED 1ST PUYALLUP RIVER BRIDGE/STAIR LANE	Project No: 2014	Project Name: WYOMING PLANNED 1ST PUYALLUP RIVER BRIDGE/STAIR LANE

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PRELIMINARY PLAN

POINTS ALONG
NORTH FACE OF CURB

4TH ST. NE EXISTING ROADWAY			
POINT #	ELEVATION	S. LINE STATION	OFFSET
10001	41.30	30+37.450	39.03
10002	41.15	30+38.380	37.23
10003	39.70	31+01.000	9.00
10004	37.00	31+04.125	23.40
10005	36.45	31+04.000	30.66
10006	35.10	31+05.039	60.52
10007	34.50	31+04.000	63.10
10008	34.40	31+04.000	64.06
10009	34.05	31+04.400	70.58
10010	34.25	31+05.550	97.25
10011	34.60	31+05.400	101.50
10012	34.80	31+06.750	116.46
10013	35.75	31+07.000	125.04
10014	36.30	30+94.365	150.32

POINTS ALONG
CENTERLINE

10015	41.42	30+78.868	38.36
10016	36.03	30+80.513	0.60
10017	37.12	30+90.184	18.95
10018	36.75	30+90.175	25.04
10019	36.12	30+93.632	42.76
10020	35.29	30+93.034	43.75
10021	34.70	30+96.299	50.89
10022	34.04	30+93.483	50.87
10023	34.25	30+91.700	70.80
10024	34.15	30+91.566	84.90
10025	34.05	30+86.651	96.18
10026	34.24	30+86.470	105.12
10027	34.37	30+86.723	114.38
10028	34.00	30+87.313	114.76
10029	34.06	30+86.461	120.40
10030	34.67	30+85.750	120.26
10031	34.90	30+84.763	120.67
10032	36.35	30+80.252	140.76
10033	36.10	30+61.089	167.90

POINTS ALONG
SOUTH FACE OF CURB

10034	41.60	30+59.159	30.34
10035	40.85	30+75.363	22.14
10036	39.28	30+77.946	-4.45
10037	38.75	30+74.503	5.60
10038	38.93	30+74.463	20.87
10039	38.77	30+74.407	40.08
10040	38.92	30+74.458	61.16
10041	38.74	30+74.439	83.85
10042	38.73	30+74.416	97.06
10043	34.58	30+74.271	114.59
10044	35.47	30+73.136	134.36
10045	36.69	30+60.219	150.16

POINTS ALONG
NORTH EDGE

PUYALLUP RIVER TRAIL EXISTING ROADWAY			
POINT #	ELEVATION	S. LINE STATION	OFFSET
20434	47.60	31+40.467	-50.13
10070	42.33	31+30.815	33.18
10071	41.97	31+30.764	-15.26
10072	41.79	31+28.715	1.05
10073	41.51	31+28.995	24.56
10074	41.25	31+28.383	27.37
10075	41.17	31+29.120	42.29
10076	41.08	31+29.121	50.70
10077	40.98	31+29.033	70.78
10078	40.97	31+28.805	87.07
10079	40.83	31+28.600	103.25
10080	40.41	31+28.350	119.64
10081	39.37	31+26.747	133.83
10082	39.54	31+24.422	147.89
10083	39.13	31+21.417	162.07
10084	38.70	31+17.568	175.72
10085	38.21	31+11.815	190.27

POINTS ALONG
SOUTH EDGE

10086	42.60	31+32.816	29.60
10087	42.67	31+24.731	-43.46
10088	42.20	31+17.279	15.49
10089	41.81	31+16.965	0.43
10090	41.30	31+13.642	24.40
10091	41.27	31+19.446	29.29
10092	41.13	31+19.174	42.30
10093	41.06	31+19.130	56.60
10094	41.07	31+12.528	70.70
10095	40.84	31+15.897	80.35
10096	40.93	31+18.609	101.38
10097	40.40	31+18.092	119.03
10098	39.96	31+20.740	132.28
10099	39.54	31+14.501	146.41
10100	39.14	31+11.619	158.95
10101	38.72	31+07.919	173.06
10102	38.19	31+02.530	188.83

POINTS ALONG
NORTH EDGE SHIP

H. LEVÉE RD. FROM SR SR 167 EXISTING ROADWAY			
POINT #	ELEVATION	S. LINE STATION	OFFSET
20574	36.04	30+58.187	74.38
20575	35.54	30+36.182	-23.00
20576	35.45	30+27.790	-11.20
20577	35.32	30+15.556	10.04
20578	35.31	30+04.822	20.32
20579	35.10	34+93.040	46.14
20580	35.15	34+85.315	59.37
20581	35.28	34+76.070	68.60
20582	35.24	34+75.374	72.13
20583	34.95	34+73.841	84.06
20584	34.69	34+72.610	95.10
20585	34.75	34+73.100	115.37
20586	35.00	34+72.513	132.68

POINTS ALONG
LINE NORTH FOG LANE

20570	36.38	35+47.280	-75.91
20571	35.96	35+39.604	-11.78
20572	35.70	35+22.027	-14.20
20573	35.44	35+00.744	26.64
20574	35.33	34+89.353	44.40
20575	35.30	34+81.241	58.84
20576	34.79	34+76.632	68.33
20577	34.68	34+75.364	71.91
20578	34.17	34+71.892	81.60
20579	33.16	34+69.761	90.02
20580	33.19	34+67.240	111.14
20581	30.39	34+65.597	131.42

POINTS ALONG
ROADWAY CENTER

20576	36.41	35+27.178	74.40
20577	36.04	35+17.880	-35.07
20578	35.65	35+03.966	-19.49
20579	35.77	34+99.167	2.00
20580	35.64	34+90.032	19.21
20581	35.15	34+77.332	41.33
20582	34.49	34+70.601	55.51
20583	34.40	34+60.477	66.89
20584	34.16	34+60.707	64.67
20585	33.57	34+58.708	47.56
20586	33.61	34+55.845	12.30
20587	33.63	34+50.589	-13.21

POINTS ALONG
LINE SOUTH LANE

20577	36.33	35+28.760	81.01
20578	36.31	35+08.294	-40.66
20579	35.88	34+38.866	24.43
20580	35.53	34+07.904	-3.37
20581	35.45	34+79.801	13.68
20582	35.32	34+68.573	26.60
20583	34.30	34+61.785	51.09
20584	34.17	34+57.137	66.33
20585	34.15	34+50.615	87.87
20586	34.40	34+46.186	90.77
20587	35.22	34+41.884	111.22
20588	35.76	34+41.885	129.76
20589	36.10	34+32.686	144.90

POINTS ALONG
SOUTH EDGE SHIP

20576	36.10	35+27.598	64.90
20577	35.62	35+02.268	-17.85
20578	35.37	34+85.613	-20.00
20579	35.30	34+85.268	-4.02
20580	35.70	34+76.862	12.14
20581	35.07	34+66.131	24.32
20582	35.10	34+59.365	30.10
20583	35.14	34+54.593	41.44
20584	35.19	34+48.027	52.21
20585	35.18	34+41.310	60.00
20586	35.33	34+40.589	112.60
20587	35.42	34+37.666	129.75

Project Name: Puyallup River Bridge/Traffic		Date: 02/12	
Client: Washington State Department of Transportation		Scale: 1"=40'	
Design: [Blank]		Check: [Blank]	
Drawn: [Blank]		Title: PRELIMINARY PLAN	

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PRELIMINARY PLAN

Appendix E Circulation List

Federal Agencies

Advisory Council on Historic Pres. W Office of Review
Bureau of Indian Affairs
Department of Homeland Security
Department of Interior/Environ. Policy &
Compliance
Department of Interior/Fish &
Wildlife/Ecological
EPA – Washington D.C.
EPA – Seattle
National Oceanographic and Atmospheric Administration (Fisheries)
U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
U.S. Coast Guard

State Agencies

Washington State Department of Commerce
Washington State Department of Ecology
Washington State Department of Fish & Wildlife
Washington State Department of Natural Resources
Washington State Department of Archaeology and Historic Preservation
Washington State Patrol (Commercial Vehicle Division)

Local Jurisdictions

Pierce County
City of Edgewood
City of Fife
City of Milton
City of Puyallup
City of Tacoma

Indian Tribes

Muckleshoot Indian Tribe
Puyallup Tribe of Indians
Squaxin Island Tribe
Confederated Tribes and Bands of the Yakama Indian Nation

Other Agencies

Pierce Transit
Sound Transit
Puget Sound Clean Air Agency
Puget Sound Regional Council

Congressional Legislator 10th District

Representative Denny Heck

State Legislators 25th District

Senator Bruce Dammeier

Representative Dawn Morrell

Representative Hans Zeiger

Libraries

Puyallup Public Library

Washington State Library

Utilities

Centurylink (Scott Slater)

City of Puyallup (Mark Palmer, Perry Baird & Ted Egeland)

Puget Sound Energy (Andy Lowrey & Sandy Leek)

SR 167 Puyallup to SR 509

SR 167 Puyallup River Bridge Replacement

Record of Decision

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SR 167

Puyallup to SR 509

SR 167 Puyallup River Bridge Replacement

FHWA-WA-EIS-2002-02-FS

Record of Decision

July 2013

Pierce County, Washington

The Federal Highway Administration (FHWA) concurs with the Washington State Department of Transportation in the choice to construct the Selected Alternative. The Selected Alternative consists of constructing a new bridge and roadway alignment for southbound traffic, which accommodates the future SR 167 Extension interchange, and removing the existing steel truss as a last order of work, as identified in the attached Final Supplemental Environmental Impact Statement.

The Selected Alternative meets the project Purpose and Need as well as protects water resources and provides the best option for minimizing the adverse effect to the historic Meridian Street Bridge. All practical means to avoid and minimize environmental harm from the Selected Alternative have been adopted,

Based on considerations in the Draft and Final Section 4(f) Evaluation for the SR 167 Puyallup River Bridge Replacement FHWA also concludes that there are no feasible and prudent alternatives to the use of Section 4(f) resources and that the Selected Alternative includes all possible planning to minimize harm to the identified Section 4(f) resources resulting from such use.

This decision is based on an evaluation of information presented in the Draft Supplemental Environmental Impact Statement; the project's purpose and need; and input from the SR 167 project team, agencies and tribes, and the public. Additional basis for this decision is contained in the remainder of this Record of Decision and the attached Final Supplemental Environmental Impact Statement.

07/16/2013

Date of Approval

Daniel M. Mathis

Daniel M. Mathis, PE

Division Administrator

Federal Highway Administration

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1.0 Decision Background and Project History

The Federal Highway Administration (FHWA) and the Washington State Department of Transportation (WSDOT) are planning the completion of the SR 167 freeway between SR 161 (Meridian Street North) in north Puyallup and the SR 509 freeway in the City of Tacoma, otherwise known as the SR 167, Puyallup to SR 509 project or the 167 Extension project. The 167 Extension project includes an interchange between SR 167 and SR 161, just north of the Puyallup River. FHWA is the federal lead agency under the National Environmental Policy Act (NEPA) and WSDOT is the state lead agency under the State Environmental Policy Act (SEPA). The US Army Corps of Engineers (COE) and the City of Fife are cooperating agencies for this project.

The environmental analysis for this project was completed in two tiers (stages). The Tier I Environmental Impact Statement (EIS) analyzed the location and environmental aspects of different corridor options and selected the environmentally preferred corridor. The Tier II EIS selected the preferred alignment within the corridor and the interchange configuration. The Preferred (Original) Alternative entailed removing the SR 167 Puyallup River bridge, also known as the Meridian Street Bridge, and constructing a new five-lane northbound bridge in its place. The existing concrete bridge on the west side of the Meridian Street Bridge would be seismically retrofitted and remain in place. The Tier II Final Environmental Impact Statement (EIS) for the SR 167, Puyallup to SR 509 project was completed in November, 2006 and the Record of Decision (ROD) was issued in October, 2007. There was no construction funding available to construct the project at that time. WSDOT received funding for engineering and to purchase right of way around this time. WSDOT has acquired 103 properties that comprise 70% of the corridor right of way, and received additional funds in 2012 to continue with acquisition.

The SR 167 Puyallup River Bridge Replacement project, which is an element of the larger SR 167 Extension project, has recently been funded. The current structural condition of the Meridian Street Bridge has made replacement of the bridge a priority. During a routine maintenance inspection of the Meridian Street Bridge in January of 2011, extensive floor beam deterioration was detected. Based on this condition, the structure is now rated *structurally deficient*. It was necessary for WSDOT to implement a load restriction on the bridge, requiring vehicles larger than 10,000 pounds gross vehicle weight to use the right lane only. The Meridian Street Bridge is prioritized on the WSDOT Preservation Program list for Bridge Replacement during the 2013-2015 biennium. The legislature has mandated the design-build process for delivery of this phase, hereafter referred to as the Puyallup River Bridge Replacement (PRBR) project. To prepare this phase for design-build, WSDOT reviewed the design and environmental documentation, and noted the conditions that have changed since the 2006 FEIS was completed. During recent inspections, the Meridian Street Bridge was determined to be eligible for listing on the National Register of Historic Places (NRHP). While it had been determined not to be eligible in 2006, the bridge is now eligible for the NRHP. The replacement of this bridge will be an *adverse effect* on a historic resource, which is now added to the list of effects. The 2006 FEIS for the 167 Extension project is supplemented with this information. Also, the design for the Puyallup River crossing as part of the 167 Extension project has been modified (Selected Alternative) in response to this finding, and all environmental aspects of the changed design were evaluated.

A Draft Supplemental EIS comparing and contrasting the original Preferred Alternative and the Selected Alternative was completed in January 2013.

1.1 Purpose & Need for Project

The purpose and need of the SR 167, Puyallup to SR 509 project is to improve regional mobility on the transportation system to serve multimodal local and port freight movement and passenger movement between the Puyallup termini of SR 167, SR 410, and SR 512 and the Interstate 5 (I-5) corridor and to the Port of Tacoma. The SR 167, Puyallup River Bridge Replacement project is an integral part of the larger SR 167, Puyallup to SR 509 project and does not change the purpose and need.

1.2 Combined Final Supplemental EIS and ROD

On July 6, 2012, President Obama signed the Moving Ahead for Progress in the 21st Century Act (MAP-21) into law effective October 1, 2012. MAP-21 includes several provisions designed to accelerate decision-making in project delivery, such as encouraging concurrent issuance of a Final EIS and ROD. Under this provision, the typical 30-day review period between the Notice of Availability for the Final EIS and the issuance of the ROD is not applicable. The new law also reduces the statute of limitations to file a legal challenge from 180 days to 150 days after the ROD is signed. WSDOT consulted with FHWA about the new MAP-21 provisions and determined that a combined Final Supplemental EIS and ROD was appropriate. The SR 167, Puyallup to SR 509 – Puyallup River Bridge Replacement Final Supplemental EIS is attached (WSDOT 2013). FHWA plans to file a Notice of Limitation on Claims for Judicial Review for this Supplemental EIS in the Federal Register. The date that the notice appears in the Federal Register will begin the 150-day statute of limitations.

2.0 Alternatives Considered

The Supplemental EIS considered two alternatives for the replacement of the Meridian Street Bridge and the design of the Puyallup River crossing on existing State Route 167:

1. The preferred alternative from the 2006 FEIS entailing removing the Meridian Street Bridge and constructing a five-lane northbound bridge in its place
2. The revised alternative entailing the construction of a new two-lane bridge on the west side of both existing bridges, removal of the Meridian Street Bridge and construction of a five-lane northbound bridge in a future phase of the project.

2.1 Description of the 2006 FEIS Design (Original Preferred Alternative)

The original preferred alternative for the SR 167 Puyallup River crossing as presented in the 2006 FEIS entailed removing the Meridian Street Bridge and constructing a new five-lane northbound bridge in its place. At the time, there was only a preliminary design for the new structure. The configuration of five-northbound lanes was determined necessary to safely allow traffic to weave into the correct lane as it approaches the proposed SR 167/SR 161 interchange. The proposal also included a small taper widening, and seismic retrofit on the existing southbound concrete bridge built in 1970. The construction strategy would require the use of a detour structure on the east side of the Meridian Street Bridge. Traffic would be shifted off of the Meridian Street Bridge onto the temporary structure, and the Meridian Street Bridge would be removed. Then the new five-lane northbound bridge would be constructed, and the temporary structure would be removed. The final stages would be the seismic retrofit of the 1970 bridge, and the taper widening on its north end to match into the proposed SR 161/167 Interchange.

This design was supported by two key decisions. The first was that the 1970 bridge could be seismically retrofitted economically. The second was that the access from Levee Road to northbound SR 167 would be terminated in a cul-de-sac, and a new connection road would be built between Levee Road and Valley Avenue to provide access to the business to the northwest of the bridge. In addition, during a review of historic-era properties for the 2006 FEIS, the Meridian Street Bridge was not eligible for the NRHP.

2.2 Description of the 2013 Revised Design (Selected Alternative)

The PRBR alternative would construct a new bridge and roadway alignment for southbound traffic, and remove the steel truss as a last order of work. This plan would successfully accommodate the future SR 167 Extension interchange by providing a two-lane structure for southbound traffic, which matches the planned configuration of the new interchange. Northbound traffic would be shifted from the steel truss onto the existing adjacent concrete bridge. Once traffic is moved off of the steel truss, the truss would be removed. (Exhibit 10 in the Final SEIS depicts the SR 167 Puyallup River crossing after completion of the PRBR project.) In the future, the SR 167 Extension project will remove the existing concrete bridge and construct a new five lane structure for northbound traffic in the footprint of the existing steel truss and concrete bridges. (This is depicted in Exhibit 11 of the Final SEIS.)

The following factors led the design team to revise the Puyallup River crossing as part of the 167 Extension project, and develop a construction strategy for the replacement of the Meridian Street Bridge, or the Puyallup River Bridge Replacement (PRBR) project:

- Replacement of the Meridian Street Bridge was made a priority due to its deteriorated condition, and funding was approved for the 2011-2013 biennium. The PRBR project funding is limited to providing a two-lane structure built to current design standards. Therefore, the Puyallup River crossing design needed to allow for the interim PRBR construction project to function as part of the future 167 Extension project.
- Recent inspection of the Meridian Street Bridge found advanced deterioration which made replacing it a high priority. It also led to the reassessment of the bridge's historic value, and it was ultimately determined to be eligible for listing on the NRHP. This meant that removing the bridge would be an adverse effect to a historic resource. Under Section 106 of the National Historic Preservation Act, and Section 4(f) of the Department of Transportation Act of 1966, such an affect must be avoided, minimized, or mitigated. This changed condition required the design team to examine alternatives to the Puyallup River crossing design in the 2006 FEIS, which had identified the need for demolition of the Meridian Street Bridge.
- Since the 2006 FEIS was completed, seismic standards for highway bridges have been revised. When evaluated in light of these changes, it was determined that seismic retrofit of the 1970 bridge would be economically unfeasible. This change required an ultimate Puyallup River crossing configuration that allowed for construction of a new southbound bridge.

This alternative would meet the purpose and need of the larger SR 167 Extension project undertaking.

3.0 Section 4(f) Evaluation

Section 4(f) of the Department of Transportation Act of 1966, codified in Federal law at 49 U.S.C. §303, declares that it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. Section 4(f) specifies that the Secretary of Transportation may approve a transportation program or project ... “requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if –

- (1) There is no feasible and prudent alternative to using that land; and
- (2) The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.”

WSDOT evaluated the Section 4(f) resources for the State Route 167 Extension project in Chapter 5 of the 2006 FEIS. Five historic properties and one archaeological site eligible for listing in the NRHP and six recreational areas were identified as eligible or potentially eligible Section 4(f) resources that would be *used* by the project. The Section 4(f) evaluation report was prepared and was available as Appendix “H” of the 2006 FEIS.

During a recent review of the status of the SR 167 Puyallup River steel truss bridge, WSDOT, on behalf of FHWA, determined the bridge is now eligible for listing in the NRHP, that the Selected Alternative will have an *adverse effect* to the bridge under Section 106 and that there is *no feasible and prudent alternative* to the use of the bridge. DAHP concurred with the determination of Adverse Effect on October 8, 2012. All prudent measures have been considered to minimize harm and to provide necessary mitigation of Section 4(f) property as detailed below: (FHWA and WSDOT will negotiate with DAHP before finalizing.)

1. WSDOT will arrange to remove from its current location, store and maintain the NRHP eligible steel truss structure to preserve it for an alternate use.
2. The documentation of the Puyallup River steel bridge will be completed in accordance with the Historic American Engineering Record standards.
3. Agreement between SHPO and FHWA has been reached through the Section 106 process of the National Historic Preservation Act and an MOA was completed on May 6, 2013 which details measures to minimize harm.
4. In the event it is not economically feasible to re-use the steel truss bridge for the Foothills Trail, WSDOT is prepared to store the bridge and advertise its availability for preservation at an alternate site. The advertisement of the availability of the bridge would occur as soon as it became apparent that the current plan was not feasible. The steel truss would remain in-place until the end of the current project in late 2015, being advertised the entire duration. If no alternative interested parties came forward during that time, WSDOT would remove the steel truss from its current location and store it until 2019 at which time funding for further storage and maintenance of the bridge would be evaluated.

FHWA and WSDOT have prepared an addendum to the original Section 4(f) evaluation. This addendum documents the Meridian Street Bridge as an additional Section 4(f) resource and is available in Appendix B of this Final Supplemental EIS.

4.0 Endangered Species Act

The Endangered Species Act (ESA) of 1973 (16 USC 1531 et seq.), as amended, is intended to protect threatened and endangered species and the ecosystems on which they depend. When the federal government takes an action subject to the ESA, it must comply with Section 7 of the ESA [found at 16 USC 1536(a)(2)]. Section 7 (a)(2) states:

Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency (hereinafter in this section referred to as an "agency action") is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with affected States, to be critical, unless such agency has been granted an exemption for such action by the Committee pursuant to subsection (h) of this section. In fulfilling the requirements of this paragraph each agency shall use the best scientific and commercial data available.

FHWA submitted a Biological Assessment (BA) in July 2012, reinitiating formal consultation with the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) on potential effects of the design changes in the Selected Alternative on listed species and updating US Fish and Wildlife Service (USFWS) on the project changes that differ from the description in the original BA. FHWA and WSDOT submitted a BA for the 167 Extension project in September 2005. The Services requested additional project information after the original BA submittal, which was transmitted to the Services in December 2005. The BA concluded that project impacts would adversely affect the Coastal-Puget Sound bull trout distinct population segment (DPS) and Puget Sound Evolutionary Significant Unit (ESU) Chinook salmon. Critical habitat for Puget Sound Chinook and for bull trout was designated in September 2005, after the BA was submitted. Subsequent analyses determined that the project would adversely affect critical habitat for Chinook salmon and bull trout. The USFWS and NMFS Biological Opinions (BOs) were issued in May 2007 and August 2007 respectively (USFWS Ref. No. 1-3-05-F-0688, NMFS Tracking No. 2005/05617). The Services concluded that project actions would not jeopardize the continued existence of these listed species and would not cause adverse modification or destruction of the designated critical habitats in the action area.

The BA submitted in July 2012 concluded that project impacts would still adversely affect Puget Sound ESU Chinook salmon and the Coastal-Puget Sound bull trout DPS, though the extent and duration of in-water effects will be reduced. Project impacts will still adversely affect critical habitat for Chinook salmon and bull trout.

Recently Listed Species

There are two species that have been listed since the BOs were issued in 2007. The Puget Sound steelhead DPS and the Southern Pacific eulachon DPS were listed as threatened. Critical habitat has not been proposed or designated for Puget Sound steelhead and critical habitat was designated for eulachon in 2011. The BA submitted in July 2012 concluded that project impacts will adversely affect Puget Sound steelhead but would not adversely affect Pacific eulachon. There will be no effect on eulachon critical habitat, which is not found in the project action area. The NMFS BO was issued in February 2013 (NMFS Tracking No. 2012/03666). NMFS agreed with the conclusions of the BA and concluded that project actions would not jeopardize the continued existence of Puget Sound steelhead in the project action area.

5.0 Measures to Minimize Harm (Commitments)

The ROD signed in 2007 for the SR 167 Extension project addressed measures to minimize harm regarding air quality, noise, environmental justice and farmland. These measures are discussed in Section 4.0 in the 2007 ROD and have not been altered by the revised design of the SR 167 Puyallup River Bridge Replacement.

Revised and/or additional measures to minimize harm to archaeological and historic resources; threatened and endangered species; and water resources for the SR 167 Puyallup River Bridge Replacement project are discussed below.

5.1 Archaeological and Historic Resources

The APE defined for the 167 Extension project did not encompass the entire area that will be affected by the revised river crossing design of the PRBR project. WSDOT defined the APE for the 167 Extension project to include an area of direct effects within a 200 foot offset on either side of the proposed highway centerline, as well as any additional right of way required for interchanges, stormwater facilities and mitigation sites. The vertical extent of this area of potential direct effects was considered to be three feet. The APE also included an additional 200 foot offset, extending 400 feet from either side of the centerline, to account for potential indirect visual or audible effects. The SR 167 Extension project 2006 FEIS details the original APE and studies performed.

WSDOT has revised the horizontal and vertical APE, for the supplemental survey, to include the revised bridge alignment to the west of the 1970 bridge. The APE encompasses all areas where ground disturbing activities associated with the proposed new bridge would occur, four feet deep in general, extending to 100 feet deep at the bridge abutment areas. The APE also includes the area within which the historic bridge and adjacent historic structures may be directly or indirectly affected by the project. A cultural resources survey was performed within the additional APE, and a report that supplements the previous cultural resources survey for the 167 Extension project, was completed in August 2012 and is included as Appendix A of the Final SEIS.

WSDOT has undertaken a complete redesign of the Puyallup River crossing aspect of the SR 167 Extension project, in order to minimize the adverse effect to the Meridian Street Bridge. The original design required that the Meridian Street Bridge be removed as a first order of work, so that a new bridge could be constructed in its place. The revised design would construct a new bridge to the west side of the 1970 bridge, which allows the Meridian Street Bridge to remain in operation during construction of the new bridge. This also allows more time for the parties to the May 2013 MOA to carry out the stipulations under section 2 B of the MOA, detailing measures to minimize harm to the historic bridge, including options to relocate the structure. WSDOT developed partnerships with the affected local jurisdictions and plans to reuse the Meridian Street Bridge steel truss structure in another location.

Memorandum of Agreement

The SR 167 corridor extension project underwent National Environmental Policy Act (NEPA) and Section 106 review between 1991 and 2006. The resulting NEPA review documented Section 106 consultation culminating in execution of an MOA. While the corridor extension project had always proposed replacement of the Meridian Street Bridge, it was not deemed eligible for the NRHP at the time of the 2006 FEIS and Section 106 consultation. Funding for an interim phase of the corridor extension project was dedicated by the 2011 legislature to address structural deficiencies found to exist with the Meridian Street Bridge. Through a December 20, 2011 letter, WSDOT initiated ongoing consultation on a slightly refined APE for this funded phase of the SR 167 Extension project. WSDOT also determined the Meridian Street Bridge to be eligible for the NRHP at that time. Archaeological fieldwork for this phase of work was performed between March and May and the cultural resources discipline report was finalized on August 2, 2012. On August 28, 2012, the cultural resources discipline report was provided to DAHP for review and SHPO concurrence with the determination of Adverse Effect for the project, due to the anticipated effects to the Meridian Street Bridge. SHPO concurred with the determination of Adverse Effect on October 8, 2012.

WSDOT and FHWA will continue Section 106 consultation to resolve these adverse effects. Per the existing project MOA, which was amended to resolve adverse effects to the Meridian Street Bridge, and per standard operating procedures, WSDOT will, on behalf of FHWA, review the SR 167 corridor APE as future phases begin final design in order to take into account their effects on historic properties.

5.2 Threatened and Endangered Species

WSDOT prepares a biological assessment for each federally funded project, when there are listed species in the area, to evaluate the potential impacts to any threatened or endangered species and the critical habitats for those species. In consultation with the federal regulating agencies, NMFS and USFWS, the biologist develops conservation measures that will be incorporated into the project design or construction plan.

The construction of the PRBR project and future construction associated with the revised Puyallup River crossing would implement WSDOT standard construction practices to avoid impacts to water quality and thereby impacts to aquatic life and habitat. Preliminary plans call for placement of a biofiltration swale within the northwest bridge quadrant; a feature of the revised design for this phase of work. Final plans developed for the PRBR project will meet or exceed the design standards specified in the biological opinions, including the use of enhanced BMPs for this area. To limit in-water noise levels, piling is required to be installed to the degree possible using a vibratory hammer and impact driving/proofing will require noise reduction measures. In-water work will be timed to avoid adult salmon, bull trout and steelhead migration. Full containment will be required during demolition work to prevent debris from falling into the river. Additionally, the project will follow the provisions of all applicable permits and approvals.

5.3 Water Resources

To construct the bridge replacement as proposed in the 2006 FEIS, two temporary work trestles and one temporary detour bridge would be necessary. It was originally expected that one of the temporary work trestles would need to extend the full width of the river. Each temporary structure would involve installation and removal of multiple piles.

However, in the proposed PRBR design revision the work would shift the Puyallup River crossing to the west approximately 100 feet, downstream. The proposed project greatly reduces the need for a temporary work trestle by using the existing 1970 concrete bridge (west of the Meridian Street Bridge) to stage materials and equipment. The proposed project will require the construction of an in-water work trestle approximately 30' by 100', as opposed to a 30' wide trestle the full 300' width of the river, as proposed in the 2006 FEIS. This in-water work trestle will extend from the ordinary high water mark on the river bank, into the Puyallup River and will be used to construct the in-water bridge pier.

The proposed PRBR project would construct a new two-lane bridge to the west of the 1970 bridge. The preliminary design for the proposed new two-lane southbound bridge has one permanent in-water pier. This design will allow for material and equipment to be staged from the 1970 bridge, reducing the need for a work trestle to access the in-water piers to a 30' by 100' work platform. No temporary detour structure will be required since the new structure would be built off line, while both north and south-bound traffic is temporarily diverted to the Meridian Street Bridge during construction. This minimizes impacts to the river and shoreline.

Best management practices, permit conditions, and other measures to avoid or minimize impacts to the water during construction will be the same as they would be with the previous bridge replacement design.

6.0 Monitoring and Enforcement

The FHWA Division Administrator and the WSDOT Director of Environmental Services are ultimately responsible for monitoring and enforcing mitigation measures. WSDOT's Olympic Region Engineering and Environmental programs, as well as the design-builder, are responsible for compliance assurance of all related commitments and regulatory permit conditions made or obtained for the SR 167 Puyallup River Bridge Replacement project. The approvals and permits are listed below in Table 1.

Table 1 – Permits and Approvals for SR 167 Puyallup River Bridge Replacement

Agency	Statute	Permit/Approval
Federal		
US Fish and Wildlife Service/National Oceanic and Atmospheric Administration Fisheries	Endangered Species Act Section 7 consultation and concurrence (impact to listed species) Migratory Bird Treaty Act	Consultation and Biological Opinion (re-initiation of consultation based on revised design; a Biological Opinion was completed in February 2013)
US Army Corps of Engineers	Clean Water Act	Section 404 Nationwide Permit
State		
Washington State Department of Ecology	Clean Water Act Section 401	Water Quality Certification
Washington State Department of Ecology	Shoreline Management Act (Coastal Zone Management Program)	Coastal Zone Management Certificate
Washington State Department of Ecology	Shoreline Management Act	Consider administrative appeals
Washington State Department of Ecology	Clean Water Act Section 402	NPDES Construction Stormwater Permit (General)
Washington Department of Fish and Wildlife	Construction projects in State Waters (RCW 77.55)	Hydraulic Project Approval
Local		
City of Puyallup	Shoreline Management Act and City Municipal Code (Chapter 21.06)	Substantial Development Permit and Critical Areas Ordinance review

7.0 Conclusion

Having carefully considered the environmental record noted below, the mitigation measures as required herein, the written and oral comments offered by other agencies and the public on this record and the written responses to the comments, FHWA has determined that the Selected Alternative is also the environmentally preferable option. The Selected Alternative is the Revised Design for the SR 167 Puyallup River Bridge Replacement which represents the best option for construction of a replacement for the Meridian Street Bridge that is compatible with the larger SR 167 Extension project. FHWA finds that all practicable measures to minimize environmental harm were incorporated into the design of the SR 167 Puyallup River Bridge Replacement. FHWA will ensure that the commitments outlined herein will be implemented as part of final design, construction contract, and post-construction monitoring.

The environmental record for this decision includes the following documents:

- SR 167 Puyallup to SR 509, Tier I Final EIS (WSDOT 1995)
- SR 167 Puyallup to SR 509, Tier II Final EIS / Section 4(f) Evaluation
FHWA-WA-EIS-2002-02-F (WSDOT 2006)
- SR 167 Puyallup to SR 509 FHWA-WA-EIS-2002-02-F Record of Decision (FHWA 2007)
- SR 167 Puyallup to SR 509, Puyallup River Bridge Replacement Draft Supplemental EIS

FHWA-WA-EIS-2002-02-DS (WSDOT 2012)

- SR 167 Puyallup to SR 509, Puyallup River Bridge Replacement Final Supplemental EIS
FHWA-WA-EIS-2002-02-FS (WSDOT 2013)

These documents, incorporated here by reference, constitute the statements required by NEPA and Title 23 of the United States Code on:

- The environmental impacts of the project,
- The adverse environmental effects that cannot be avoided should the project be implemented,
- Alternatives to the proposed project,
- Irreversible and irretrievable impacts on the environment that may be involved with the project should it be implemented.

These Commitments are in addition to those listed in the contract, plans, specials and any applicable WSDOT manuals.

Index #	Unique ID	Topic / Source	Requirement	Responsibility	Heading
401-01	1	Hazardous Materials; Water Quality	Puyallup River is designated as waters of the State. Certification of this proposal does not authorize the Design-Builder to exceed applicable state water quality standards (173-201A WAC) or sediment quality standards (173-204 WAC) beyond what is authorized by the Department of Ecology. Furthermore, nothing in the approved Department of Ecology 401 permit shall absolve the Design-Builder from liability for contamination and any subsequent cleanup of surface waters or sediments occurring as a result of project construction or operations.	Environmental (Design-Builder)	Compliance with Water Quality Standards
401-02	2	BMP Installation; Clearing and Grading; TESC Requirements; Timing Requirements	From October 1 through April 30, the Design-Builder shall ensure no soils remain exposed and unworked for more than two (2) days. From May 1 to September 30, the Design-Builder shall ensure no soils remain exposed and unworked for more than seven (7) days.	Construction (Design-Builder)	Timing
401-03	3	Notification Requirements	The Design-Builder shall provide notification to WSDOT so WSDOT can provide notification to Ecology at least 30 Calendar days prior to the pre-construction meeting.	WSDOT/Design-Builder	Notification Conditions
401-04	4	Notification Requirements	The Design-Builder shall provide notification to WSDOT so WSDOT can provide notification to Ecology at least 30 Calendar days prior to starting construction activities.	WSDOT/Design-Builder	Notification Conditions
401-05	5	Notification Requirements	The Design-Builder shall provide notification to WSDOT so WSDOT can provide notification to Ecology at least 30 Calendar days after the completion of the project.	WSDOT/Design-Builder	Notification Conditions
401-06	6	Notification Requirements; Reporting Requirements; Water Quality	The Design-Builder shall provide notification to WSDOT so WSDOT can provide immediate notification to Ecology any time a violation of the state water quality standards occurs or if a revision from the permitted Work is needed.	WSDOT/Design-Builder	Notification Conditions
401-07	7	Permit Coverage; Training and Awareness; Water Quality	WSDOT and the Design-Builder shall ensure that all appropriate Project Engineers, Lead Contractors, Sub-Contractors and Site Managers at the project site have read and understand relevant conditions of the Ecology 401 Water Quality Certification and all permits, approvals, and documents referenced in the Ecology 401 Water Quality Certification.	WSDOT/Design-Builder	Notification Conditions
401-08	8	Submittal Requirements; Training and Awareness; Water Quality	The Design-Builder shall ensure that all project engineers, contractors, and other workers at the project site with authority to direct work, have read and understand the conditions in the project Water Quality Certification (WQC). The Design-Builder shall provide Ecology a signed statement for each signatory that s/he has read and understands the conditions of the project WQC and WQC referenced permits, documents, and approvals. The Design-Builder shall submit these statements to Ecology before construction begins at each project component.	WSDOT/Design-Builder	Notification Conditions
401-09	9	Submittal Requirements; Timing Requirements	The signed statements required per Commitment ID #8 shall be provided to WSDOT within three (3) Calendar days following receipt of final project permits. WSDOT will provide them to Ecology and shall include in this statement the Ecology 401 Water Quality Certification number and project contact.	WSDOT/Design-Builder	Notification Conditions
401-10	10	Reporting Requirements; Schedule; Submittal Requirements	The Design-Builder shall submit to WSDOT a detailed construction schedule for work in-water, overwater, near shore and on steep slopes, staging areas, and temporary parking and access areas so WSDOT can submit the schedule to Ecology prior to the start of Work.	WSDOT/Design-Builder	Notification Conditions
401-19	11	Disposal of Surplus Material	The Design-Builder shall ensure that all vehicles transporting upland soils be suitably equipped to prevent spillage of soils while in route to the permitted disposal site.	Construction (Design-Builder)	Disposal of Soil
401-20	12	Environmental Regulations	Work in, over or near the waterbody conducted by the Design-Builder shall be done so as to minimize turbidity, erosion, and other water quality impacts.	Construction (Design-Builder)	Conditions for In-water and Over-water Construction Activities
401-21	13	Environmental Regulations	Machinery and equipment used during construction shall be serviced, fueled, steam cleaned and maintained by the Design-Builder in an upland location, identified within the Design-Builder's SPCCP, in order to prevent contamination to any surface water. Some equipment will not be feasible to move on a regular basis to refuel. In this case, the Design-Builder shall utilize the necessary BMPs to prevent spills to water during refueling.	Construction (Design-Builder)	Conditions for In-water and Over-water Construction Activities
401-23	14	Environmental Regulations	The Design-Builder shall remove all debris or deleterious material resulting from construction activities to prevent the materials from entering waters of the State and shall dispose of it properly in a permitted upland disposal facility. Concrete rubble, metal debris, and other debris in the construction work corridor that has washed into river areas shall be removed from the project area.	Construction (Design-Builder)	Conditions for In-water and Over-water Construction Activities
401-24	15	Environmental Regulations	The Design-Builder shall survey and delineate all Environmentally Sensitive Areas not permitted for impact with high-visibility construction fencing in order to protect them from disturbance. To avoid impacts to forage fish spawning areas and any other sensitive aquatic macro algae bed, no portion of any barge, anchor or float system shall ground in areas that have been delineated as such unless prior approval from the regulatory agencies has been received.	Construction (Design-Builder)	Conditions for In-water and Over-water Construction Activities
401-25	16	Environmental Regulations, Materials	The Design-Builder shall ensure that all concrete be poured in the dry, or within confined waters not being dewatered to surface waters, and shall be allowed to cure before contact with uncontrolled surface waters (i.e. the Design-Builder shall not allow waters of the State to come in contact with the concrete structure while the concrete is curing). Wet, uncured concrete in direct contact with the water is toxic to aquatic life.	Construction (Design-Builder)	Conditions for In-water and Over-water Construction Activities
401-26	17	Environmental Regulations, Materials	Concrete pumps, tremies or other approved methods of concrete placement shall be used by the Design-Builder. The Design-Builder shall ensure proper containment, de-watering and equip the concrete placement gear with an emergency cut-off valve so that no uncured concrete comes into contact with waters of the State.	Construction (Design-Builder)	Conditions for In-water and Over-water Construction Activities

These Commitments are in addition to those listed in the contract, plans, specials and any applicable WSDOT manuals.

Index #	Unique ID	Topic / Source	Requirement	Responsibility	Heading
401-27	18	Environmental Regulations	The Design-Builder shall reshape river bank area depressions created during project activities to protect bank levels upon project completion.	Construction (Design-Builder)	Conditions for In-water and Over-water Construction Activities
401-28	19	Environmental Regulations	The Design-Builder shall conduct project activities to minimize siltation of the river bed.	Construction (Design-Builder)	Conditions for In-water and Over-water Construction Activities
401-29	20	Environmental Regulations	Bridge Construction: The Design-Builder shall protect all inlets and catchments during construction to ensure no conveyance of toxic materials to waters of the State.	Construction (Design-Builder)	Bridge Construction
401-30	21	Environmental Regulations, Materials	Prior to removing forms within OHWM, the Design-Builder shall ensure the concrete is completely cured.	Construction (Design-Builder)	Bridge Construction
401-31	22	ESA	Creosote treated piling, lumber, or other treated material shall not be used by the Design-Builder on this Project.	Construction (Design-Builder)	Pile Removal and Installation Work (including temporary sheet piles)
401-32	23	ESA	When removing piles, direct vibratory pulling shall be the method utilized by the Design-Builder whenever possible to minimize localized turbidity.	Construction (Design-Builder)	Pile Removal and Installation Work (including temporary sheet piles)
401-33	24	ESA	The Design-Builder shall implement best management practices for all in-water work (i.e., pile removal, pile driving, armoring, and outfall construction) to ensure that turbidity thresholds per WAC 173-201A and as presented in the Water Quality Monitoring and Protection Plan are met at the applicable points of compliance. If turbidity exceedances occur the Design-Builder shall notify WSDOT immediately and implement corrective actions to prevent additional exceedances.	Construction (Design-Builder)	Pile Removal and Installation Work (including temporary sheet piles)
401-34	25	Environmental Regulations	The Design-Builder shall ensure that wash water from the vehicles delivering concrete be contained and not discharged unless it is discharged to a pH/turbidity treatment system capable of discharging in compliance with State Water Quality Standards.	Construction (Design-Builder)	Conditions for the Transport of Concrete
401-35	26	Environmental Regulations	The Design-Builder shall submit to WSDOT a Temporary Erosion and Sediment Control (TESC) Plan and an SPCC plan for review at least 35 Calendar Days prior to beginning construction. WSDOT will submit to Ecology at least 30 days prior.	Construction (Design-Builder)	Conditions for Construction Stormwater
401-36	27	Environmental Regulations	Water Quality: Discharges from construction shall be monitored per the Design-Builder's Water Quality Monitoring Plan approved by Ecology (as required per the NPDES Construction Stormwater General Permit).	Construction (Design-Builder)	Monitoring Conditions
401-37	28	Environmental Regulations	The Design-Builder shall ensure that in-water work will be performed in accordance with the Project 401 Ecology Water Quality Certification, implementing the in-water work BMPs as required per the 401 Water Quality Monitoring and Protection Plan. In the event of any water quality monitoring exceedances (e.g., turbidity), the Design-Builder shall follow the notification procedures identified in the 401 Water Quality Monitoring and Protection Plan. The WSDOT Engineer shall be notified of the problem and proposed corrections so WSDOT can notify Ecology. All monitoring of uplands discharges will be conducted by the Design-Builder to ensure compliance with the permit conditions set by Ecology in the NPDES Construction General Permit and associated NPDES monitoring plans.	Construction (Design-Builder)	Monitoring Conditions
401-38	29	Environmental Regulations	Prior to starting construction, the Design-Builder's Monitoring Plan shall identify all the construction activities at the site that may have a discharge (e.g., dewatering water, construction storm water, etc.) whether to surface water or ground water.	Construction (Design-Builder)	Monitoring Conditions
401-39	30	Environmental Regulations	The Design-Builder shall ensure that all construction storm water discharges will be monitored to meet the requirements of the NPDES Construction General Permit. In accordance with NPDES requirements, monitoring plans will be developed to ensure compliance. All in-water work and discharges will also meet the requirements of the Ecology 401 Water Quality Certification and 401 Water Quality Monitoring and Protection Plan.	Construction (Design-Builder)	Monitoring Conditions
401-40	31	Environmental Regulations	Prior to starting construction, the Design-Builder's Monitoring Plan shall identify the location of proposed discharge points and require monitoring at each discharge point.	Construction (Design-Builder)	Monitoring Conditions
401-44	32	Environmental Regulations	The Design-Builder shall retain the Monitoring Plan onsite during construction activities or within reasonable access to the site and make it immediately available upon request by Ecology.	Construction (Design-Builder)	Monitoring Conditions
401-45	33	Environmental Regulations	The Design-Builder shall update their Monitoring Plan as necessary to adequately represent changes at the Puyallup River Site.	Construction (Design-Builder)	Monitoring Conditions

These Commitments are in addition to those listed in the contract, plans, specials and any applicable WSDOT manuals.

Index #	Unique ID	Topic / Source	Requirement	Responsibility	Heading
401-46	34	Environmental Regulations	Any work that is out of compliance with the provisions of the Ecology 401 Water Quality Certification, or conditions causing distressed or dying fish, or any discharge of oil, fuel, or chemicals into state waters, or onto land with a potential for entry into state waters, is prohibited. The Design-Builder shall identify contingency measures and notification protocols if distressed or dying fish are observed in the 401 in-water work Water Quality Monitoring and Protection Plan. If conditions as described above occur, the Design-Builder and WSDOT shall immediately take the following actions: a) Cease operations at the location of the violation or spill, b) Assess the cause of the water quality problem and take appropriate measures to correct the problem and/or prevent further environmental damage, c) Notify Ecology of the failure to comply. All oil spills shall be reported immediately to Ecology's 24-hour Spill Response Team, and within 24 hours of spills or other events to Ecology's Federal Project Manager, and d) Submit a detailed written report to Ecology within five (5) days that describes the nature of the event, corrective action taken and/or planned, steps to be taken to prevent a recurrence, results of any samples taken, and any other pertinent information.	WSDOT/Design-Builder	Emergency/Contingency Measures
401-47	35	Environmental Regulations	The Design-Builder shall have the necessary cleanup materials available and respond to all spills in a timely fashion, preventing their discharge to waters of the State. The Design-Builder shall ensure that all appropriate Project Engineers, construction staff and subcontractors receive appropriate training to assure that spills are reported to the WSDOT Engineer and responded to appropriately.	Construction (Design-Builder)	Spill Response
401-48	36	Environmental Regulations	The 401 permit does not authorize direct, indirect, permanent, or temporary impacts to waters of the State or related aquatic resources, except as specifically provided for in conditions of this permit.	Construction (Design-Builder)	General Conditions
401-49	37	Environmental Regulations	The 401 permit does not exempt and is conditioned upon compliance with other statutes and codes administered by federal, state, and local agencies.	Construction (Design-Builder)	General Conditions
401-50	38	Environmental Regulations	Ecology retains continuing jurisdiction to make modifications hereto through supplemental Order if it appears necessary to further protect the public interest.	Construction (Design-Builder)	General Conditions
401-51	39	Environmental Regulations	The Design-Builder shall construct and operate the project in a manner consistent with the project description contained in the approved Joint Aquatic Resources Permit Application (JARPA) and any other related permits for the Project.	Construction (Design-Builder)	General Conditions
401-52	40	Environmental Regulations (Haz-Mat)	If at any time during project construction, the Design-Builder finds buried containers such as drums, or notices any unusual conditions that might indicate the disposal of chemicals or hazardous material, the contractor shall cease operations immediately and notify WSDOT, so WSDOT can contact Ecology's Southwest Regional Hazardous Waste Office at 360-407-6702.	Construction (Design-Builder)	General Conditions
401-53	41	Environmental Regulations	WSDOT and the Design-Builder shall each have at least one representative onsite, or on-call and readily accessible to the site, at all times while construction activities are occurring that may affect the quality of ground and surface waters of the State, including all periods of construction activities.	Construction (Design-Builder)	General Conditions
401-54	42	Environmental Regulations	The WSDOT and Design-Builder representatives shall have adequate authority to ensure proper implementation of the Erosion and Sediment Control Plan, as well as immediate corrective actions necessary because of changing field conditions. If the WSDOT or Design-Builder's representative issues a directive necessary to prevent pollution to waters of the State, all personnel onsite, including the Design-Builder and the Design-Builder's employees, shall immediately comply with this directive and contact WSDOT for any non-compliance so WSDOT can contact Ecology.	Construction (Design-Builder)	General Conditions
401-55	43	Environmental Regulations	WSDOT and the Design-Builder shall provide access to the Puyallup River Site upon request by Ecology personnel for site inspections, monitoring, necessary data collection, or to ensure that conditions of this Order are being met.	WSDOT/Design-Builder	General Conditions
401-56	44	Environmental Regulations	Copies of this Order and all related permits, approvals, and documents shall be kept on the project site and readily available by the Design-Builder for inspection and reference by the project managers, construction managers and foremen, other employees and contractors of the Design-Builder, and state agency personnel.	WSDOT/Design-Builder	General Conditions
401-57	45		Any person who fails to comply with any provision of the 401 permit shall be liable for a penalty of up to ten thousand dollars (\$10,000) per violation for each day of continuing noncompliance.	WSDOT/Design-Builder	General Conditions
401-58	46	General Conditions; Submittals and Notifications	The Design-Builder shall ensure that all project submittals, as required per the 401 Water Quality Certification (WQC), are provided to Ecology consistent with the WQC general conditions. All notifications to Ecology shall be performed in accordance with the WQC requirements and include notification a) at least 7 days prior to the onset of initiating work on the project site, and b) at least 7 days within project completion.	Construction (Design-Builder)	General Conditions
401-59	47	General Conditions; Changes and Updated Information	The Design-Builder in coordination with WSDOT shall obtain Ecology review and approval before undertaking any changes to the proposed project that might significantly and adversely affect water quality, other than those project changes required by the project Water Quality Certification (WQC). Within 30 days of any updated information, Ecology will determine if the revised project requires a new public notice and Certification or if a modification to the project WQC is required.	Construction (Design-Builder)	General Conditions

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Index #	Unique ID	Topic / Source	Requirement	Responsibility	Heading
401-60	48	In-water Work Window	The Design-Builder shall ensure that all in-water work is completed within the work window identified in the most current Hydraulic Project Approval (HPA) that WDFW issues for the project. Any project changes that require a new or revised HPA shall be submitted to Ecology for review.	Construction (Design-Builder)	In-water Work Window
401-61	49	Water Quality Exceedances	If turbidity exceedances of the criteria as defined in the project WQC and project Water Quality Monitoring and Protection Plan (WQMPP), at the point of compliance are detected, the Design-Builder shall immediately take action to stop, contain, and take other steps to prevent further violations and otherwise stop the violation and correct the problem. After the event the Design-Builder shall assess the adequacy of the BMPs and update, or improve those used, to reduce and prevent recurrence of the turbidity exceedances. The Design-Builder shall notify WSDOT immediately, such that WSDOT can notify Ecology's Project Manager of any turbidity exceedances detected through water quality monitoring (including visual) within 24 hours of occurrence. The Design-Builder shall assist WSDOT in providing Ecology with the following information at a minimum; a) a description of the nature and cause of the exceedance, b) the period of non-compliance, including precise dates, and when the Design-Builder returned, or expects to return to compliance, c) the steps taken, or to be taken, to reduce, eliminate, and prevent recurrence of the non-compliance, and d) in addition to the 24 hour notification, the Design-Builder shall assist WSDOT in submitting a written report to Ecology that describes the nature of the exceedance, sampling results and location, photographs, and any other pertinent information within 5 days after the exceedance. The report shall also identify what additional BMPs were, or will be implemented to prevent further exceedances.	Construction (Design-Builder)	WQ Monitoring
401-62	50	Upland Construction Conditions	The Design-Builder shall ensure that all clearing limits, stockpile sites, staging areas, and trees to be preserved shall be clearly marked prior to construction activities and maintained until all work is completed for each project. Construction storm water, sediment, and erosion control BMPs (e.g., filter fences, coir mats, etc.) to prevent exceedances of state water quality standards shall be in place before starting construction at the site. The Design-Builder shall comply with the NPDES Construction Stormwater General Permit issued for the project.	Construction (Design-Builder)	General Conditions
401-63	51	In-water Construction	In-water construction is defined as all work below Ordinary High Water (OHW). During construction the Design-Builder shall have a boat available at all times for debris retrieval.	Construction (Design-Builder)	In-water Work Window
City-HRA-1	52	City of Puyallup Haul Road/Detour Agreement	WSDOT has obtained a Detour Agreement with the City of Puyallup. The Design-Builder shall abide by the terms of this agreement. The Design-Builder shall be responsible for obtaining a Haul Road Agreement from the City of Puyallup, if one is deemed necessary. The Design-Builder shall keep all City streets clear of any dirt or debris that originates from the project site.	Construction (Design-Builder)	Maintenance of City Roads
City-SSD-1	53	Project Permit Compliance	The Design-Builder shall ensure that all activity occurring in-water or near water shall comply with requirements as determined by the Department of Fish and Wildlife. The Design-Builder shall obtain all required permits from the City of Puyallup (i.e. construction permits, etc.), the NPDES permit from Ecology and shall ensure that all project activities shall be performed in compliance with OSHA Standards. The Design-Builder shall ensure that construction is in compliance with the Record of Decision issued July 2013.	Construction (Design-Builder)	Environmental Permits
City-SSD-2	54	Spills and Fuel Release Cleanup	The Design-Builder shall ensure that all appropriate methods are in place to take care of all releases of oils, hydraulic fluids, fuels, other petroleum products, paints, solvents, and other deleterious materials, spills are contained and removed in a manner that will prevent their discharge to waters and soils of the state. The cleanup of spills shall take precedence over other work.	Construction (Design-Builder)	WQ, Spills
City-SSD-3	55	Erosion and Sediment Control	The Design-Builder shall ensure that erosion control through the use of Best Management Practices as required to prevent side casting of fill material on to adjacent properties or into the water. All erosion and sediment control measures shall be in place prior to, during, and after site improvements are completed or when control measures are no longer needed.	Construction (Design-Builder)	Erosion Control
City-SSD-4	56	Re-vegetation	The Design-Builder shall re-vegetate all disturbed ground.	Construction (Design-Builder)	
City-SSD-5	57	In-water Equipment Maintenance and Spills	The Design-Builder shall ensure that equipment that enters waterways shall be maintained such that no visible sheen from petroleum products appears within waterways. If a sheen appears around the equipment in the water, the equipment shall be contained within an oil boom and shall be removed from the water, cleaned and/or maintained appropriately. If equipment leaks occur during work, the Design-Builder shall ensure that the equipment is immediately removed from within the waterway to a location where pollutants cannot enter any waterway. The equipment shall not be allowed within the waterway until all leaks have been corrected and the equipment cleaned. Any upland area where leaking equipment is stored will also be cleaned/remediated immediately.	Construction (Design-Builder)	WQ, Spills
CORPS 404-01	58	Notification Requirements; Permit Coverage; Schedule; Timing Requirements	The time limit for completing the work authorized will be specified in the approved permit. The Design-Builder shall notify WSDOT of any need for an extension of time to complete the authorized activity so WSDOT can submit a request to the U. S. Army Corps of Engineers (USACE) at least 1 month prior to the end date specified in the approved permit.	Environmental (Design-Builder)	General Conditions

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CORPS 404-02	59	Historic, Cultural, Archaeological Resources; Monitoring Requirements; Notification Requirements	If any previously unknown historic or archeological remains are discovered by WSDOT or the Design-Builder while accomplishing the activity authorized by the permits for the project, the Design-Builder must immediately notify WSDOT and follow the procedures spelled out in the Unanticipated Discovery Plan for this Project. WSDOT will provide notification to the USACE.	Environmental (Design-Builder)	General Conditions
CORPS 404-03	60	Permit Coverage; Water Quality	The Design-Builder shall comply with the conditions specified within the 401 Water Quality Certification issued for the Project as special conditions to this permit. A copy of the certification will be attached if it contains such conditions.	Environmental (Design-Builder)	General Conditions
CORPS 404-04	61	Monitoring Requirements; Permit Coverage	The Design-Builder shall allow representatives from the USACE to inspect the authorized activity at anytime deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of the Section 404 permit.	Construction (Design-Builder)	General Conditions
CORPS 404-05	62	Recordkeeping; Submittal Requirements; Training and Awareness	The Design-Builder shall provide a copy of the Section 404 Permit transmittal letter, the permit form, and drawings to all contractors and subcontractors performing any of the authorized Work.	Construction (Design-Builder)	Special Conditions
CORPS 404-06	63	Fish, Aquatic Habitat, and T&E Fish Species; Permit Coverage; Wildlife, Habitat, and Upland T&E Species	The Biological Opinions (BO) prepared by the National Marine Fisheries Service (NMFS or NOAA) and the U.S. Fish and Wildlife Service (USFWS) for this Project contain mandatory terms and conditions the Design-Builder shall implement which include reasonable and prudent measures that are associated with the specified incidental take in the BOs. WSDOT's authorization under the USACE permit is conditional upon the Design-Builder's compliance with all of the mandatory terms and conditions associated with incidental take of these BOs. These terms and conditions will be incorporated by reference into the permit. The Design-Builder's failure to comply with the commitments made in the document constitutes non-compliance with the ESA and USACE permit.	Environmental (Design-Builder)	Special Conditions
CORPS 404-07	64	Excavation; Historic, Cultural, Archaeological Resources; Monitoring Requirements; Submittal Requirements	The Federal Highways Administration (FHWA) has been designated the lead Federal agency responsible for implementing and enforcing the requirements of Section 106 of the National Historic Preservation Act (NHPA.) In order to meet the requirements of Section 106 of the NHPA, WSDOT must, prior to commencing construction, submit to the U.S. Army USACE of Engineers (Corps), Seattle District, Regulatory Branch, a copy of the monitoring plan submitted to the State Historic Preservation Officer. Authorization under the USACE permit is conditional upon the Design-Builder and WSDOT's compliance with the monitoring plan. FHWA and WSDOT are the agencies responsible for ensuring compliance with the monitoring plan.	WSDOT/Design-Builder	Special Conditions
CORPS 404-08	65	Excavation; Historic, Cultural, Archaeological Resources; Notification Requirements	If human remains or archaeological resources are encountered during construction, the Design-Builder shall cease all ground disturbing activities in the immediate area and WSDOT shall immediately (within one business day of discovery) notify the U.S. Army USACE of Engineers (Corps). The Design-Builder shall perform any work required by the USACE in accordance with Section 106 of the National Historic Preservation Act and USACE regulations. If the Design-Builder or WSDOT discovers any previously unknown historic or archeological remains while accomplishing the activity authorized by the permits for the project, the Design-Builder shall immediately notify WSDOT and follow the procedures spelled out in the Unanticipated Discovery Plan for this Project.	WSDOT/Design-Builder	Special Conditions
CORPS 404-09	66	In-water Work Window; Notification Requirements; Services	The Design-Builder shall comply with the conditions specified within the USFWS and NMFS Biological Opinions issued for the Project. The Design-Builder shall conduct the authorized activities in the work window (July 15 - August 31) as agreed to and documented in writing through consultation by USFWS and NMFS in any year the permit is valid. If changes to the originally authorized work window are proposed, the Design-Builder and WSDOT must re-coordinate these changes with the Services and receive written concurrence on the changes. Copies of the concurrence(s) must be sent to the USACE, Regulatory Branch, within 10 days of the date of the revised concurrence. USFWS and NMFS Biological Opinions are provided in Appendix E of the RFP.	Environmental (Design-Builder)	Special Conditions
CORPS 404-10	67	General Condition	The Design-Builder shall provide a copy of the USACE 404/10 permit transmittal letter, permit form, and permit drawings to all contractors involved in the authorized work, and a copy of the permit materials shall be maintained in good condition in the project permits file. No activity or its operation may impair reserved tribal rights, but not limited to, reserved water rights and treaty fishing and hunting rights.	Environmental (Design-Builder)	General Conditions
ESA-001	68	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder shall construct permanent stormwater BMPs with flow control	Construction (Design-Builder)	Special Conditions
ESA-002	69	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder shall implement the Temporary Erosion and Sediment Control (TESC) and Spill Prevention, Control, and Countermeasure (SPCC) plans.	Construction (Design-Builder)	Special Conditions

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ESA-003	70	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder (DB) shall ensure that the water quality mixing zones will not exceed 300 feet in Puyallup River.	Construction (Design-Builder)	Special Conditions
ESA-004	71	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The DB shall install temporary BMPs that allow turbid water to settle for a minimum of two hours before discharging. The flow rate of turbid water into the stream will not exceed one tenth of the natural flow rate of the stream at the time of discharge when dewatering a work area.	Construction (Design-Builder)	Special Conditions
ESA-006	72	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder will coordinate temporary erosion control work with the construction of permanent drainage and erosion control work. The WSDOT may require additional temporary control measures if it appears pollution or erosion may result from weather, the nature of the materials, or progress on the work. When natural elements rut or erode the slope, the Design-Builder will restore and repair the damage with the eroded material where possible, and clean up any remaining material in ditches and culverts.	Construction (Design-Builder)	Special Conditions
ESA-007	73	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	If the WSDOT Engineer anticipates water pollution or erosion from project construction, the Design-Builder will schedule the work so that grading and erosion control immediately follows clearing and grubbing. The WSDOT Engineer may also require erosion control work to be done with or immediately after grading. The Design-Builder shall ensure that Clearing, grubbing, excavation, borrow, or fill within the right of way will never expose more erodible earth than as listed below, without written approval by the Engineer: 17 acres maximum between May 1 – September 30, five acres maximum between October 1 – April 30	Construction (Design-Builder)	Special Conditions
ESA-008	74	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The WSDOT Engineer may allow the Design-Builder to increase or decrease the limits (in ID #73) if the grubbing is to be done separately at a later date or if the area limitation for grubbing is too restrictive to accommodate the clearing operations and there is little potential for erosion due to the clearing operation.	Construction (Design-Builder)	Special Conditions
ESA-009	75	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	Erodible earth is defined as any surface where soils, grindings, or other materials capable of being displaced and transported by rain, wind, or surface water runoff. The Design-Builder shall ensure that erodible soil not being worked, whether at final grade or not, will be covered within the following time period, using an approved soil covering practice, unless authorized by the WSDOT Engineer: October 1 through April 30: two days maximum, May 1 to September 30: seven days maximum	Construction (Design-Builder)	Special Conditions
ESA-010	76	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder shall not apply tacifier coat when rain is forecast.	Construction (Design-Builder)	Special Conditions
ESA-011	77	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder shall ensure that materials are clean, covered when appropriate, and placed in a manner to prevent erosion and siltation that might result from high water or heavy rains.	Construction (Design-Builder)	Special Conditions
ESA-012	78	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder shall store materials during demolition where upland runoff cannot cause the materials or leachate to enter into surface waters.	Construction (Design-Builder)	Special Conditions
ESA-013	79	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder shall not locate staging and/or material stock pile areas within 300 feet of any streams, rivers, or wetlands; unless site specific review completed by the project biologist indicates that no impacts to the sensitive resource areas will occur due to topography or other factors.	Construction (Design-Builder)	Special Conditions
ESA-015	80	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder shall ensure that saw-cut water will not enter surface water.	Construction (Design-Builder)	Special Conditions
ESA-016	81	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder shall contain waste water and dispose of it in an upland location where it will not enter surface waters.	Construction (Design-Builder)	Special Conditions
ESA-017	82	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder shall dispose of waste material, debris, or spoils at an approved and permitted upland commercial site, approved waste site, or incorporated into embankments as appropriate.	Construction (Design-Builder)	Special Conditions

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ESA-018	83	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder shall completely seal all concrete forms to prevent the possibility of fresh concrete from entering surface waters.	Construction (Design-Builder)	Special Conditions
ESA-019	84	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder shall contain and discharge to uplands water that comes into contact with concrete within the first seven days of cure with no possible entry to surface waters. Where uplands are not available for treatment, other methods of water treatment will be utilized as approved by the WSDOT engineer.	Construction (Design-Builder)	Special Conditions
ESA-020	85	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder shall collect and properly dispose of debris accumulation on bridges and within bridge drains off site.	Construction (Design-Builder)	Special Conditions
ESA-021	86	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder shall use a containment boom to contain and collect any floating debris and sheen during bridge removals.	Construction (Design-Builder)	Special Conditions
ESA-022	87	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder shall ensure that material placed within the water will be free of sediment and other contaminants.	Construction (Design-Builder)	Special Conditions
ESA-022	88	Air Quality; Energy and Natural Resources; Equipment Provisions; Training and Awareness	The Design-Builder shall turn off equipment when not in use.	Design-Builder	Special Conditions
ESA-024	89	Air Quality; Energy and Natural Resources; Equipment Provisions	The Design-Builder shall ensure only well-maintained and properly functioning equipment and vehicles be used.	Design-Builder	Special Conditions
ESA-025	90	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder shall store and mix all liquid products on an impervious surface in a secure covered and contained location to eliminate the potential for spills. Paint and solvent spills will be treated as oil spills and will be prevented from reaching storm drains or other discharges. Cleaning solvents or chemicals used for tool or equipment cleaning will not be discharged to the ground or surface waters.	Construction (Design-Builder)	Special Conditions
ESA-026	91	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder shall ensure that fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc., will be inspected regularly for drips or leaks and will be maintained and stored properly to prevent spills into state waters. Drip pans or other protective devices will be required for all transfer operations.	Construction (Design-Builder)	Special Conditions
ESA-027	92	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder shall ensure that spilled waste, chemicals or petroleum products will be transported off site for disposal at a facility approved by the WDOE or the local County Health Department. The materials will not be discharged to any sanitary sewer without approval of the local sewer authority.	Construction (Design-Builder)	Special Conditions
ESA-028	93	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	Spills into State waters, spills onto land with a potential for entry into surface or groundwater, or other substantial water quality impacts will be reported immediately to the WDOE Southwest Regional Office 24 hour telephone line at (360) 407-6300. Containment and cleanup efforts will begin immediately and be completed as soon as possible, taking precedence over normal work. Cleanup will include proper disposal of any spilled material and used cleanup materials. Concentrated waste or spilled chemicals will be transported off the site for disposal at a facility approved by the WDOE or local County Health Department.	Construction (Design-Builder)	Special Conditions
ESA-029	94	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder shall take extreme care to insure that no petroleum products, hydraulic fluid, fresh concrete, sediments, sediment-laden water, chemicals, or any other toxic or deleterious materials are allowed to enter or leach into the receiving waters. A separate area will be set aside, that does not have any possibility of draining to surface waters, for wash out of concrete delivery trucks, pumping equipment, and tools.	Construction (Design-Builder)	Special Conditions
ESA-030	95	NMFS 2007 BO, MM: TESC, Spills, WQ USFWS 2007 BO, MM: TESC, Spills, WQ	The Design-Builder shall cease project operations under high flow conditions that may result in inundation of the project area, except for efforts to avoid or minimize resource damage.	Construction (Design-Builder)	Special Conditions
ESA-031	96	NMFS 2007 BO, MM: Pile Driving USFWS 2007 BO, MM: Pile Driving	The Design-Builder shall install sheet piles and cofferdams using a vibratory hammer.	Construction (Design-Builder)	Special Conditions
ESA-032	97	NMFS 2007 BO, MM: Pile Driving USFWS 2007 BO, MM: Pile Driving	The Design-Builder shall place sheet piles and cofferdams using machines kept outside the wetted width of the Puyallup River.	Construction (Design-Builder)	Special Conditions

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Index #	Unique ID	Topic / Source	Requirement	Responsibility	Heading
ESA-033	98	NMFS 2007 BO, MM: Pile Driving USFWS 2007 BO, MM: Pile Driving	The Design-Builder shall install piles with a vibratory hammer and limit impact hammer to proofing.	Construction (Design-Builder)	Special Conditions
ESA-034	99	NMFS 2007 BO, MM: Pile Driving USFWS 2007 BO, MM: Pile Driving	The Design-Builder shall limit noise levels to 206 Decibels (dB) peak and 187 dB accumulated sound exposure level (SEL) for all listed species, except those less than 2 grams, in which case the noise level limit is 183 dB SEL, at a reference pressure of one micro-Pascal (dB re: 1µPa) measured at mid-depth 10 meters from the piling, utilizing bubble curtain sound attenuation. Note: all decibel levels discussed hereafter will assume a reference pressure of 1 µPa.	Construction (Design-Builder)	Special Conditions
ESA-036	100	NMFS 2007 BO, MM: Temp Access Rds USFWS 2007 BO, MM: Temp Access Rds	The Design-Builder shall use existing roads or travel paths whenever possible.	Construction (Design-Builder)	Special Conditions
ESA-037	101	NMFS 2007 BO, MM: Temp Access Rds USFWS 2007 BO, MM: Temp Access Rds	The Design-Builder shall use stabilized construction entrances and wheel washing stations where determined appropriate.	Construction (Design-Builder)	Special Conditions
ESA-039	102	NMFS 2007 BO, MM: Invasive Weeds	The Design-Builder shall only apply Glyphosate during dry conditions, by wicking versus broadcast spraying, using either Agri-Dex (preferred) or LI700 as surfactants.	Construction (Design-Builder)	Special Conditions
ESA-040	103	NMFS 2007 BO, MM: Invasive Weeds USFWS 2007 BO, MM: Invasive Weeds	The Design-Builder shall not use Glyphosate products identified as "toxic to fish".	Construction (Design-Builder)	Special Conditions
ESA-041	104	NMFS 2007 BO, MM: Invasive Weeds USFWS 2007 BO, MM: Invasive Weeds	The Design-Builder shall apply herbicides in accordance with label requirements to avoid over application and drift.	Construction (Design-Builder)	Special Conditions
ESA-042	105	NMFS 2007 BO, MM: Invasive Weeds USFWS 2007 BO, MM: Invasive Weeds	The Design-Builder shall mark herbicide application boundaries and replant with native species.	Construction (Design-Builder)	Special Conditions
ESA-044	106	NMFS 2007 BO, MM: Temp Crossings USFWS 2007 BO, MM: Temp Crossings	The Design-Builder shall keep temporary structures in place for the minimum amount of time necessary.	Construction (Design-Builder)	Special Conditions
ESA-045	107	NMFS 2007 BO, MM: Temp Crossings USFWS 2007 BO, MM: Temp Crossings	The Design-Builder shall fill holes left from removal of temporary pilings with clean native substrate that matches surrounding substrate materials when feasible.	Construction (Design-Builder)	Special Conditions
ESA-046	108	NMFS 2007 BO, MM: Temp Crossings USFWS 2007 BO, MM: Temp Crossings	The Design-Builder shall use untreated wood for temporary bridge decking.	Construction (Design-Builder)	Special Conditions
ESA-048	109	NMFS 2007 BO, MM: Perm Crossings USFWS 2007 BO, MM: Perm Crossings	The Design-Builder shall use drilled shaft construction for all permanent in-water bridge piers.	Construction (Design-Builder)	Special Conditions
ESA-050	110	NMFS 2007 BO, MM: Perm Crossings USFWS 2007 BO, MM: Perm Crossings	The Design-Builder shall place pier shafts to a depth adequate to prevent future scour.	Construction (Design-Builder)	Special Conditions
ESA-053	111	NMFS 2007 BO, MM: Perm Crossings USFWS 2007 BO, MM: Perm Crossings	The Design-Builder shall minimize the size of cofferdams and caissons to the extent possible.	Design + Construction (Design-Builder)	Special Conditions

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Index #	Unique ID	Topic / Source	Requirement	Responsibility	Heading
ESA-054	112	NMFS 2007 BO, MM: Storm Water Outfalls USFWS 2007 BO, MM: Storm Water Outfalls	The Design-Builder shall avoid or minimize the construction of new outfalls to the extent possible by connecting project drainage to existing conveyance systems such as pipes or non fish-bearing ditches or by dispersing flows in uplands or riparian areas.	Design + Construction (Design-Builder)	Special Conditions
ESA-055	113	NMFS 2007 BO, MM: Storm Water Outfalls USFWS 2007 BO, MM: Storm Water Outfalls	The Design-Builder shall avoid rock placement when possible, by dissipating energy and reducing flow prior to reaching outfalls and locate outfalls on already armored banks.	Construction (Design-Builder)	Special Conditions
ESA-056	114	NMFS 2007 BO, MM: Storm Water Outfalls USFWS 2007 BO, MM: Storm Water Outfalls	The Design-Builder shall use river rock or cobble for dissipater pads where velocity allows.	Design + Construction (Design-Builder)	Special Conditions
ESA-057	115	NMFS 2007 BO, MM: Storm Water Outfalls USFWS 2007 BO, MM: Storm Water Outfalls	The Design-Builder shall minimize the footprint of dissipater pads and outfalls and locate them to minimize habitat impact.	Design + Construction (Design-Builder)	Special Conditions
ESA-058	116	NMFS 2007 BO, MM: Storm Water Outfalls USFWS 2007 BO, MM: Storm Water Outfalls	The Design-Builder shall individually place rock below the ordinary high water mark, and not end-dump.	Construction (Design-Builder)	Special Conditions
ESA-060	117	NMFS 2007 BO, MM: Storm Water Outfalls USFWS 2007 BO, MM: Storm Water Outfalls	The Design-Builder shall locate stormwater outfalls to allow backwatering and reduce velocities.	Design + Construction (Design-Builder)	Special Conditions
ESA-063	118	NMFS 2007 BO, MM: Footprint Minimization USFWS 2007 BO, MM: Footprint Minimization	The Design-Builder shall limit vegetation impacts to the maximum extent possible.	Construction (Design-Builder)	Special Conditions
ESA-064	119	NMFS 2007 BO, MM: Footprint Minimization USFWS 2007 BO, MM: Footprint Minimization	The Design-Builder shall delineate work boundaries with construction fencing prior to clearing or grubbing to minimize disturbance to sensitive areas.	Construction (Design-Builder)	Special Conditions
ESA-066	120	NMFS 2007 BO, MM: Revegetation USFWS 2007 BO, MM: Revegetation	If streambanks are disturbed by project activities, the Design-Builder shall stabilize and revegetate using techniques in the Integrated Streambank Protection Guidance.	Construction (Design-Builder)	Special Conditions
ESA-067	121	NMFS 2007 BO, MM: Lighting USFWS 2007 BO, MM: Lighting	The Design-Builder shall ensure that work areas are not lit at night when inactive and that lighting will not be directed at the water.	Construction (Design-Builder)	Special Conditions
ESA-068	122	NMFS 2007 BO, MM: Lighting USFWS 2007 BO, MM: Lighting	The Design-Builder shall ensure that all nighttime lighting will be kept to the minimum necessary for the intended purpose, in terms of both the intensity and area illuminated.	Construction (Design-Builder)	Special Conditions
ESA-069	123	NMFS 2007 BO, MM: Miscellaneous USFWS 2007 BO, MM: Miscellaneous	The Design-Builder shall ensure that work will not inhibit passage of juvenile fish throughout the construction period.	Construction (Design-Builder)	Special Conditions
ESA-071	124	NMFS 2007 BO, MM: Miscellaneous USFWS 2007 BO, MM: Miscellaneous	The Design-Builder shall ensure that creosoted materials will be disposed of in a landfill according to Chapter 173-304-190 WAC: Owner responsibilities for solid waste. The owner, operator, or occupant of any premise, business establishment, or industry will be responsible for the satisfactory and legal arrangement for the handling of all solid waste accumulated by them on the property.	Construction (Design-Builder)	Special Conditions
ESA-072	125	NMFS 2007 BO, MM: Miscellaneous USFWS 2007 BO, MM: Miscellaneous	If at any time fish are observed in distress or a fish kill occurs, the Design-Builder shall notify the WSDOT Engineer, so that WSDOT may notify NMFS [FWS] in the case of accidental fish kills.	Construction (Design-Builder)	Special Conditions
ESA-073	126	NMFS 2007 BO, MM: Miscellaneous USFWS 2007 BO, MM: Miscellaneous	The in-water work window is expected to be July 15 – August 31. The Design-Builder shall perform all in-water work within this window.	Construction (Design-Builder)	Special Conditions

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Index #	Unique ID	Topic / Source	Requirement	Responsibility	Heading
ESA-074	127	NMFS 2007 BO, MM: Miscellaneous USFWS 2007 BO, MM: Miscellaneous	The Design-Builder shall ensure that all project activities will comply with Washington Department of Fish and Wildlife (WDFW) Hydraulic Project Approval (HPA) requirements as agreed upon by NMFS.	Construction (Design-Builder)	Special Conditions
ESA-075	128	NMFS 2007 BO, (T&C: 1.a. + EFH CR: 1.a.)	The Design-Builder shall ensure that Staging and stockpile areas shall be a minimum of 300 feet from any sensitive area (e.g. streambanks, riparian areas, wetlands) unless site specific review completed by the project biologist, indicates that no impacts to the sensitive resource areas will occur due to topography or other factors.	Design + Construction (Design-Builder)	Special Conditions
ESA-076	129	NMFS 2007 BO, (T&C: 1.b. + EFH CR: 1.b.)	The Design-Builder shall use all manual methods in the control of invasive plant species prior to the use of Glyphosate to the maximum extent practicable.	Construction (Design-Builder)	Special Conditions
ESA-077	130	NMFS 2007 BO, (T&C: 1.c. + EFH CR: 1.c.)	The Design-Builder shall ensure that the surfactant LI 700® shall not be used in the formulation of Glyphosate for the control of invasive plant species.	Construction (Design-Builder)	Special Conditions
ESA-078	131	NMFS 2007 BO, (T&C: 1.h. + EFH CR: 1.g.)	If the Design-Builder decided to use work area isolation cofferdams, they shall be installed extending from the substrate to an elevation such that they will not be inundated at the maximum water level expected during in-water work.	Design + Construction (Design-Builder)	Special Conditions
ESA-079	132	NMFS 2007 BO, T&C: 1.i. USFWS 2007 BO, T&C: BT I, 1	The Design-Builder shall install individual pieces of multi-piece cofferdams in sequence to discourage fish from entering the project area and to allow fish that may become trapped to escape through the downstream opening.	Construction (Design-Builder)	Special Conditions
ESA-080	133	NMFS 2007 BO, T&C: 1.j. USFWS 2007 BO, T&C: BT I, 2	The Design-Builder shall conduct cofferdam dewatering in two to three stages, pausing between stages to accommodate fish removal.	Construction (Design-Builder)	Special Conditions
ESA-081	134	NMFS 2007 BO, T&C: 1.k. USFWS 2007 BO, T&C: BT I, 4	The Design-Builder shall not remove cofferdam materials until turbidity levels within the work area are the same as the river.	Construction (Design-Builder)	Special Conditions
ESA-082	135	NMFS 2007 BO, T&C: 1.m.	The Design-Builder shall completely remove all pilings by either pulling or vibrating them out. If they cannot be removed in their entirety, pilings may be cut off two feet below existing streambed level with verbal approval from NMFS.	Construction (Design-Builder)	Special Conditions
ESA-083	136	NMFS 2007 BO, T&C: 2.a.	The Design-Builder shall submit the sound attenuation design specifications to the WSDOT Engineer 90 days before impact pile driving, so that WSDOT may submit the design specifications to NMFS for review and comment a minimum of 30 days prior to impact pile driving.	Design + Construction (Design-Builder)	Special Conditions
ESA-084	137	NMFS 2007 BO, T&C: 2.b.	The Design-Builder shall ensure that if more than one impact pile hammer is employed in proofing temporary pilings for the temporary Puyallup River work trestle, that no more than one operates at a time.	Construction (Design-Builder)	Special Conditions
ESA-085	138	NMFS 2007 BO, T&C: 2.c.	The Design-Builder shall utilize the approved sound attenuation system identified in ID #162 for all impact pile proofing in the Puyallup River in order to meet the project's performance standard. Impact pile installation without sound attenuation is authorized only as necessary to determine baseline Sound Pressure Levels (SPLs) and only as specified in the hydroacoustic monitoring plan.	Construction (Design-Builder)	Special Conditions
ESA-086	139	NMFS 2007 BO, T&C: 2.d.	The Design-Builder shall not impact install and/or proof steel pilings between one hour after sunset and one hour before sunrise.	Construction (Design-Builder)	Special Conditions
ESA-087	140	NMFS 2007 BO, T&C: 2.e.	The DB shall immediately notify the WSDOT Engineer if hydroacoustic monitoring indicates that the SPLs will exceed the performance standard in the Biological Opinion. The FHWA shall consult with NMFS regarding modifications to the sound attenuation methodology in an effort to reduce the SPLs below the limits of take and continue hydroacoustic monitoring.	Construction (Design-Builder, WSDOT will notify NMFS)	Special Conditions
ESA-088	141	NMFS 2007 BO, T&C: 3.a.	The Design-Builder shall develop a Temporary Erosion and Sediment Control plan that addresses site-specific topographic, geologic, vegetative, hydrologic, and habitat conditions and is included as a provision of the contract. The TESC plan shall be continuously implemented, monitored, and modified as necessary, for the duration of the project, to eliminate or minimize the movement of soils and sediments both into the river from all upland construction areas and within the river, within the limits of the 300 foot water quality mixing zone for the Puyallup River.	Design + Construction (Design-Builder)	Special Conditions
ESA-089	142	NMFS 2007 BO, T&C: 3.b. USFWS 2007 BO, T&C: BT III, 3	The Design-Builder shall use a continuous flow model calibrated to forested conditions in sizing duration flow control BMPs.	Design (Design-Builder)	Special Conditions
ESA-090	143	NMFS 2007 BO, T&C: 3.d.	The Design-Builder shall treat all stormwater from water crossings to ensure that there is no direct discharge of untreated stormwater to receiving waters.	Design (Design-Builder)	Special Conditions

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Index #	Unique ID	Topic / Source	Requirement	Responsibility	Heading
ESA-091	144	USFWS 2007 BO, T&C: BT III, 1	The Design-Builder shall ensure that concentrations of dissolved metals from the project do not exceed 2.3 µg/L dissolved copper over background levels not exceeding 3.0 µg/L and 5.6 µg/L dissolved zinc over background levels between 3.0 µg/L and 13.0 µg/L. The points of compliance will be: i. In the Puyallup River immediately outside the mixing zone (300 ft long downstream by 25 percent of the width of the river during the 7Q10 discharge). Hydraulic modeling conducted by the WSDOT indicates that dissolved metal concentrations at the confluence of each of these waterbodies with listed fish-bearing waters will meet the thresholds identified above, as long as concentrations at the stormwater outfalls do not exceed the following values 90 percent of the time: • Dissolved copper: 7.8 µg/L, • Dissolved zinc: 44.8 µg/L.	Design (Design-Builder)	Special Conditions
ESA-092	145	NMFS 2007 BO, T&C: 3.f.	The Design-Builder shall ensure that post-project discharges into the Puyallup River at the WSDOT SR 167 Extension stormwater outfall do not exceed pre-project annual loads of dissolved copper and dissolved zinc.	Design (Design-Builder)	Special Conditions
ESA-093	146	NMFS 2007 BO, T&C: 3.g.	The Design-Builder shall submit all documentation and associated plans for stormwater treatment methods and facilities to the WSDOT Engineer so that WSDOT can provide NMFS with the quantitative evidence that the proposed action will not exceed 2.3 µg/L dissolved copper over background levels not exceeding 3.0 µg/L and 5.6 µg/L dissolved zinc over background levels between 3.0 µg/L and 13.0 µg/L, 1.5 feet from the WSDOT stormwater outfall in the Puyallup River. The analytical metric for demonstrating anticipated performance of the final design and installation of infrastructure that will not exceed these concentrations shall be a combination of the FHWA Method (WSDOT 2003a) and the WDOE Guidance for Conducting Mixing Zone Analyses (WDOE 2007a), or equivalent, and shall be performed consistent with respect to making conservative assumptions regarding BMP performance. The Design-Builder shall submit all completed calculations, with all parameters, methods, and assumptions documented, and associated plans for stormwater treatment methods and facilities to the WSDOT Engineer 120 days prior to the start of construction so that WSDOT can approve and submit these to NMFS for their approval within 90 days prior to beginning construction of the project. If exceedences of these dissolved copper and dissolved zinc concentrations lead to NMFS disapproval, reinstitution of consultation is required.	Design (Design-Builder)	Special Conditions
ESA-094	147	NMFS 2007 BO, T&C: 4.b.	The Design-Builder shall develop and implement a hydroacoustic monitoring plan to document the effectiveness of the approved sound attenuation system. The Design-Builder shall submit the monitoring plan to the WSDOT Engineer 90 days prior to impact pile driving, so that WSDOT can approve the monitoring plan and submit it to NMFS for their approval a minimum of 30 days prior to impact pile driving. The hydroacoustic monitoring plan must be prepared and implemented by an individual(s) with proven expertise in the field of underwater acoustics, fish biology and behavior, and data collection. The Design-Builder shall provide the results, once monitoring is complete, to the WSDOT Engineer so that WSDOT can submit the results of monitoring to NMFS within 90 days of completing monitoring.	Construction (Design-Builder)	Special Conditions
ESA-095	148	NMFS 2007 BO, T&C: 4.c.	The Design-Builder shall document all listed salmonids encountered during work area isolation by promptly submitting Inwater Construction Monitoring Report forms (Appendix VI), or equivalent, to the WSDOT Engineer, so that WSDOT can submit the documentation to NMFS within 30 days of work area isolation.	Construction (Design-Builder)	Special Conditions
ESA-096	149	NMFS 2007 BO, T&C: 4.d.	Monitor erosion control Terms and Conditions, including minimization measures and BMPs, and take corrective action if necessary to ensure protection of riparian and inwater habitats.	Construction (Design-Builder)	Special Conditions
ESA-112	150	NMFS 2007 BO, EFH CR: 3.b.	The Design-Builder shall use a continuous flow model calibrated to forested conditions in sizing duration flow control BMPs.	Design (Design-Builder)	Special Conditions
ESA-113	151	NMFS 2007 BO, EFH CR: 3.d.	The Design-Builder shall convey all stormwater from water crossings upland for treatment to ensure that there is no direct discharge to receiving waters.	Design + Construction (Design-Builder)	Special Conditions
ESA-122	152	BA/BO Project Description	The Design-Builder's bridge design for the new bridge shall have no more than one in-water pier with drilled shafts.	Design + Construction (Design-Builder)	Special Conditions
ESA-123	153	BA/BO Project Description	The Design-Builder's project design documents and plan sheets may have a temporary work trestle, not larger than 30 ft x100 ft.	Design + Construction (Design-Builder)	Special Conditions
ESA-124	154	BA/BO Project Description	The Design-Builder's temporary work trestle design shall have no more than sixty, 24-inch hollow steel trestle support piles.	Design + Construction (Design-Builder)	Special Conditions
ESA-126	155	NMFS 2013 RI BO	NMFS requires that all stormwater will be infiltrated. If soil conditions do not allow adequate infiltration, then the Design Builder shall ensure that stormwater be treated using the most advanced and approved design for enhanced treatment and detention before the stormwater is allowed to enter the Puyallup River or its tributaries. The Design-Builder shall provide the WSDOT Engineer with their proposed stormwater treatment, Hi-RUN analysis and designs 120 days before construction begins, so that FHWA/WSDOT can provide the NMFS with the analysis and designs, for review and approval, no later than 90 days before construction begins.	Design + Construction (Design-Builder)	Special Conditions

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Index #	Unique ID	Topic / Source	Requirement	Responsibility	Heading
ESA-127	156	NMFS 2013 RI BO	The Design-Builder shall ensure that the area of impact defined by water quality mixing zones does not exceed 300 feet in the Puyallup River.	Construction (Design-Builder)	Special Conditions
ESA-128	157	NMFS 2013 RI BO	The Design-Builder shall use an underwater noise attenuation device, on those piles located in water three feet or deeper during impact proofing, that is expected to achieve a minimum reduction of 10 decibels.	Construction (Design-Builder)	Special Conditions
ESA-129	158	NMFS 2013 RI BO	The FHWA and WSDOT have committed that stormwater runoff that cannot be infiltrated will receive flow control and enhanced treatment for pollutants. If the Design-Builder determines that any sites are unsuitable for infiltration or enhanced treatment, the Design-Builder shall analyze these areas for their pollutant loads and dissolved zinc and copper concentrations. The Design-Builder shall provide this information, along with a treatment plan, to the WSDOT Engineer 120 days before construction begins, so that FHWA/WSDOT can provide the treatment plan to the NMFS for approval a minimum of 90 days before construction begins. If the analysis predicts potential exceedences of dissolved copper and dissolved zinc concentrations, and then leads to the NMFS disapproval of the revised treatment, reinitiation of consultation is required as identified in the original Opinion Term and Condition 3.g.	Design + Construction (Design-Builder)	Special Conditions
ESA-130	159	NMFS 2013 RI BO	The Design-Builder may construct the new bridge pier located below the OHWM of the Puyallup River within a caisson enclosure structure that doubles to allow working in the dry and isolates the work from fish-bearing water. The caisson resembles a large diameter tube that is vibrated into the substrate and the water is pumped out. If the Design-Builder chooses this method, juvenile steelhead trapped within will be removed with dip nets as the water level lowers.	Construction (Design-Builder)	Special Conditions
ESA-131	160	NMFS 2013 RI BO	The Design-Builder shall implement all reasonable and prudent measures associated with the specified incidental take in the BOs. Take is exempted for: 1. the area of temporary water quality degradation, not to exceed five Nephelometric Turbidity Units above background levels for no more than three days, within 300 feet of in-water construction activities in the Puyallup River.	Construction (Design-Builder)	Special Conditions
ESA-132	161	NMFS 2013 RI BO	The Design-Builder shall implement all reasonable and prudent measures associated with the specified incidental take in the BOs. Take is exempted for: 2. impact pile installation without sound attenuation only as necessary to determine baseline SPLs and only as specified in the hydroacoustic monitoring plan;	Construction (Design-Builder)	Special Conditions
ESA-133	162	USFWS 2007 BO, T&C: BT I, 3	The Design-Builder shall screen dewatering pumps in a manner that prevents fish from being entrained in the pumps or impinged on the screens. The pump intake shall be screened by one of the following: a. Perforated plate: 0.094 inch (maximum opening diameter). b. Profile bar: 0.069 inch (maximum width opening). c. Woven wire: 0.087 inch (maximum opening in the narrow direction). The minimum open area for all types of fish guards is 27%. The screened intake shall consist of a facility with enough surface area to ensure that the velocity through the screen is less than 0.4 feet per second. Screen maintenance shall be adequate to prevent injury or entrapment of juvenile fish and the screen shall remain in place whenever water is withdrawn from the stream through the pump intake.	Construction (Design-Builder)	Special Conditions
ESA-134	163	USFWS 2007 BO, T&C: BT I, 3	The Design-Builder shall document all bull trout encountered during work area isolation and immediately report any encounters to the WSDOT Engineer, so that WSDOT may report the results to USFWS within 30 days of work area isolation.	Construction (Design-Builder)	Special Conditions
ESA-145	164	NMFS 2007 BO, Effect on Habitats and Species	The Design-Builder shall use a vibratory hammer to install the piles, limiting the use of an impact hammer to that needed for proofing.	Construction (Design-Builder)	Special Conditions
ESA-147	165	NMFS 2007 BO, Effects of Increased Impervious Surfaces - Performance Standard	The WSDOT will apply the following performance standard to all water quality BMPs, with the exception of the CAVFS and bio-infiltration swales proposed for use in the Puyallup River TDA: • Basic Treatment = At least 80 percent removal of TSS; • Enhanced Treatment = Basic Treatment plus effluent concentrations not to exceed the following values 90 percent of the time at the point of discharge: □ Total copper: 12 µg/L; □ Dissolved copper: 7.8 µg/L; □ Total zinc: 67 µg/L; □ Dissolved zinc: 44.8 µg/L. For the CAVFS and bio-infiltration swales, effluent concentrations will not exceed the following values 90 percent of the time at the point of discharge: □ Total copper: 9.8 µg/L; □ Dissolved copper: 6.2 µg/L; □ Total zinc: 62.4 µg/L; □ Dissolved zinc: 24.8 µg/L.	Construction (Design-Builder)	Special Conditions
ESA-148	166	NMFS 2007 BO	If a sick, injured or dead specimen of a threatened or endangered species is found in the project area, the finder must notify NMFS through the contact person identified in the transmittal letter for this Opinion, or through the NMFS Office of Law Enforcement at (800) 853-1964, and follow any instructions. If the proposed action may worsen the fish's condition before NMFS can be contacted, the finder should attempt to move the fish to a suitable location near the capture site while keeping the fish in the water and reducing its stress as much as possible. Do not disturb the fish after it has been moved. If the fish is dead, or dies while being captured or moved, report the following information: (1) NMFS consultation number; (2) the date, time, and location of discovery; (3) a brief description of circumstances and any information that may show the cause of death; and (4) photographs of the fish and where it was found. NMFS also suggests that the finder coordinate with local biologists to recover any tags or other relevant research information. If the specimen is not needed by local biologists for tag recovery or by NMFS for analysis, the specimen should be returned to the water in which it was found, or otherwise discarded.	Construction (Design-Builder)	Special Conditions

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ESA-149	167	USFWS 2007 BO	The FWS is to be notified within three working days upon locating a dead, injured or sick endangered or threatened species specimen. Initial notification must be made to the nearest U.S. Fish and Wildlife Service Law Enforcement Office. Notification must include the date, time, precise location of the injured animal or carcass, and any other pertinent information. Care should be taken in handling sick or injured specimens to preserve biological materials in the best possible state for later analysis of cause of death, if that occurs. In conjunction with the care of sick or injured endangered or threatened species or preservation of biological materials from a dead animal, the finder has the responsibility to ensure that evidence associated with the specimen is not unnecessarily disturbed. Contact the U.S. Fish and Wildlife Service Law Enforcement Office at (425) 883-8122, or the Western Washington Fish and Wildlife Office at (360) 753-9440.	Construction (Design-Builder)	Special Conditions
GHC-1	168	Soil Stockpile and Solid Waste Removal	The Design-Builder shall ensure that the excavated material to be stockpiled onsite shall consist of clean soils (WAC 173-350-100) and the following excavated materials and debris will be removed from the soils to be placed in the stockpile and shall be properly disposed of in a permitted solid waste facility; metals, plastics, geo-textiles, rubber, tires, and visually identifiable creosote or other chemically treated lumber, concrete, clearing and grubbing, foundations, fences and other structures or obstructions. Large logs shall also be removed from the excavated soils and properly disposed of offsite.	Construction (Design-Builder)	General Conditions
HPA-01	169	Fish, Aquatic Habitat, and T&E Fish Species; Pile Driving; Schedule; Timing Requirements	TIMING LIMITATIONS: The project may begin and shall be completed within the following timing constraints: a. The Design-Builder shall ensure that construction work below the wetted perimeter of the Puyallup River shall only occur from July 15 through August 31 of any year for the protection of migrating juvenile salmonids.	Construction (Design-Builder)	Timing Limitations
HPA-02	170	Notification Requirements; Reporting Requirements; Water Bypass Provisions; Water Resources	NOTIFICATION REQUIREMENT: The Design-Builder shall notify WSDOT so WSDOT can notify the WDFW Area Habitat Biologist (AHB) of the project start date. Notification shall be received by the AHB prior to the start of construction. The Design-Builder shall notify WSDOT so WSDOT can provide written notice to the WDFW Enforcement Sergeant no less than three working days prior to start of work, and again within seven (7) days of completion of work to arrange for a compliance inspection. The notification shall include the permittee's name, project location, starting date for work or completion date of work, and the control number for the Hydraulic Project Approval obtained for the Project.	Environmental (Design-Builder)	Notification Requirement
HPA-03	171	Drainage Facilities; Fish, Aquatic Habitat, and T&E Fish Species	The Design-Builder shall ensure that design and construction of drainage outfalls shall be equipped with a Tideflex or other similar type of tide gate, to prevent fish from entering the drainage system.	Drainage (Design-Builder)	Drainage Outfalls
HPA-04	172	Clearing and Grading; Excavation; Fish, Aquatic Habitat, and T&E Fish Species; Water Quality; Water Resources	The Design-Builder shall ensure that materials, excavated or otherwise, shall be stockpiled above Ordinary High Water (OHW) in an approved upland disposal site.	Construction (Design-Builder)	Excavated Material
HPA-05	173	Fish, Aquatic Habitat, and T&E Fish Species; Pile Driving	The Design-Builder shall use a vibratory hammer to install the piles, limiting the use of an impact hammer to that needed for proofing. Hydraulic, cable, or other types of impact drivers where the driving force can be regulated are preferred over diesel impact drivers. Use of impact drivers by the Design-Builder will be governed by applicable in-water work fish windows, limitations, and BMPs as specified by associated Federal, State, and local permits.	Engineering Management (Design-Builder)	Intertidal and In-Water Pile Driving and Removal Provisions
HPA-06	174	Solid and Liquid Waste Disposal; Timing Requirements	The Design-Builder shall be responsible for removing any temporary pilings used for coffer dams (or other uses) by the use of vibratory equipment within the permitted work window. The Design-Builder shall ensure that the pilings are disposed or stored upland following completion of the Work.	Construction (Design-Builder)	Intertidal and In-Water Pile Driving and Removal Provisions
HPA-07	175	Fish, Aquatic Habitat, and T&E Fish Species; Monitoring Requirements; Notification Requirements; Pile Driving	If a fish kill occurs or fish are observed in distress from pile driving, the Design-Builder shall immediately cease the activity and WSDOT shall be notified. WSDOT will notify the Washington Military Department's Emergency Management Division and to the WDFW Area Habitat Biologist immediately. The Design-Builder shall ensure that a project inspector/biologist is onsite during all in water pile driving operations to monitor for distressed fish. The project inspector/biologist qualification shall include demonstrated field experience in fish identification. The Design-Builder shall ensure that this inspector has full authority to stop work in the event that dead or distressed fish are observed.	Construction (Design-Builder)	Intertidal and In-Water Pile Driving and Removal Provisions
HPA-08	176	Dredging; Excavation; Shoreline Provisions	The Design-Builder shall limit removal or destruction of overhanging bankline vegetation to that necessary for the construction of the Project. Within seven (7) calendar days of project completion, the Design-Builder shall ensure that all disturbed areas shall be protected from erosion using vegetation or other means.	Environmental (Design-Builder)	Habitat Feature and Water Quality Provisions
HPA-09	177	Excavation; Shoreline Provisions; Solid and Liquid Waste Disposal	The Design-Builder shall ensure that all construction related debris on the river bank be removed and disposed of at an upland permitted facility such that it does not enter waters of the State.	Landscaping (Design-Builder)	Habitat Feature and Water Quality Provisions
HPA-10	178	Fish, Aquatic Habitat, and T&E Fish Species; Monitoring Requirements; Notification Requirements; Pile Driving	If at any time, as a result of project activities, fish are observed in distress, a fish kill occurs, or water quality problems develop (including equipment leaks or spills), the Design-Builder shall notify the WSDOT engineer immediately so that WSDOT can provide immediate notification to the Washington Military Department's Emergency Management Division at 1-800-258-5990 and to the Area Habitat Biologist.	Construction (Design-Builder & WSDOT)	Habitat Feature and Water Quality Provisions

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HPA-11	179	Fish, Aquatic Habitat, and T&E Fish Species; Solid and Liquid Waste Disposal; SPCCP Requirements; Water Quality	The Design-Builder shall ensure that erosion control methods are used to prevent silt-laden water from entering the river. If high flow conditions that may cause siltation are encountered during this project, the Design-Builder shall stop work until the flow subsides.	Construction (Design-Builder)	Habitat Feature and Water Quality Provisions
HPA-12	180	Outfall Installation; Water Diversion and Fish Precautions	The Design-Builder shall install outfalls in the dry or in isolation from the river flow. Any device used for diverting water from a fish-bearing stream shall be equipped with a fish guard to prevent passage of fish into the diversion device pursuant to RCW 77.57.010 and 77.57.070. The pump intake shall be screened by one of the following: a. Perforated plate: 0.094 inch (maximum opening diameter). b. Profile bar: 0.069 inch (maximum width opening). c. Woven wire: 0.087 inch (maximum opening in the narrow direction). The minimum open area for all types of fish guards is 27%. The screened intake shall consist of a facility with enough surface area to ensure that the velocity through the screen is less than 0.4 feet per second. Screen maintenance shall be adequate to prevent injury or entrapment of juvenile fish and the screen shall remain in place whenever water is withdrawn from the stream through the pump intake.	Construction (Design-Builder)	Special Conditions
HPA-13	181	Infrastructure Installation; Treated Lumber	The Design-Builder shall ensure that all treated lumber to be used for the project shall meet or exceed the standards established in "Best Management Practices For the Use of Treated Wood in Aquatic and Other Sensitive Environments" developed by the Western Wood Preservers Institute, Wood Preservation Canada, Southern Pressure Treaters' Association, and Timber Piling Council, dated August 2, 2006, and any current amendments or addenda to it. Current amendments and addenda include but may not be limited to "Amendment #1 CCA Chromated Copper Arsenate", dated October 25, 2006; and "Addendum #1: ACC Acid Chromated Copper", dated February 28, 2007. Sawdust, drillings, and trimmings from treated wood or plastic shall be contained with tarps or other impervious materials and prevented from contact with the beach, bed, or waters of the State. Under no circumstances shall creosote treated piling or lumber be used for project construction.	Construction (Design-Builder)	Special Conditions
HPA-15	182	Hazardous Materials; Solid and Liquid Waste Disposal; SPCCP Requirements; Water Quality	The Design-Builder shall ensure that measures are taken to ensure that no petroleum products, hydraulic fluid, fresh cement, sediments, sediment-laden water, chemicals, or any other toxic or deleterious materials are allowed to enter or leach into surface waters. An emergency spill containment kit must be located onsite along with a pollution prevention plan detailing planned fueling, materials storage, and equipment storage. Waste storage areas must be prepared to address prevention and cleanup of accidental spills.	Construction (Design-Builder)	Habitat Feature and Water Quality Provisions
HPA-16	183	Bridge Installation	The Design-Builder shall ensure that the bridge is constructed to pass the 100-year peak flow with consideration of debris likely to be encountered.	Construction (Design-Builder)	
HPA-17	184	Bridge Installation	The Design-Builder shall ensure that the bridge structure is placed in a manner that minimizes damage to the riverbed and banks.	Construction (Design-Builder)	
HPA-18	185	Bridge Installation	The Design-Builder shall ensure that abutments, piers, piling, sills, approach fills, etc., shall not constrict the flow and cause any appreciable increase (not to exceed 0.2 feet) in backwater elevation (calculated at the 100-year flood) or channel-wide scour, and shall be aligned to cause the least effect on the hydraulics of the river.	Construction (Design-Builder)	
HPA-19	186	Bridge Installation	The Design-Builder shall ensure that riprap materials used for structure protection shall be clean, angular rock, which shall be installed to withstand the 100-year peak flow.	Construction (Design-Builder)	
HPA-20	187	Bridge Installation	The Design-Builder shall ensure that structures containing concrete are sufficiently cured prior to contact with water to avoid leaching. Fresh concrete shall not be allowed to come into contact with state waters.	Construction (Design-Builder)	
HPA-21	188	Bridge Installation	Where aggregate or earth type material is used for paving or accumulates on the bridge, the Design-Builder shall ensure that curbs, or wheel guards are installed and maintained to prevent the loss of material into the river.	Construction (Design-Builder)	
HPA-22	189	Bridge Installation	Design-Builder shall ensure that a tarp system or similar system that will capture debris and slurries, is placed beneath the bridge during construction of the new bridge. Material collected within this debris capture system shall be disposed of at an approved upland location so it will not re-enter waters of the state.	Construction (Design-Builder)	
HPA-23	190	Bridge Removal	Removal of the existing structure shall be accomplished so the structure and associated material does not enter the river. The Design-Builder shall ensure that a tarp system or similar system that will capture debris is placed beneath the bridge during removal of the existing bridge. Material collected within this debris capture system shall be disposed of at an approved upland location so it will not re-enter waters of the state.	Construction (Design-Builder)	
HPA-24	191	Bridge Removal	Bridge removal shall be accomplished by mechanical means. This HPA does not authorize blasting.	Design/Construction (Design-Builder)	
HPA-25	192	Construction Equipment	Equipment used for this project may operate below the ordinary high water line, provided the drive mechanisms (wheels, tracks, tires, etc.) shall not enter or operate below the ordinary high water line.	Construction (Design-Builder)	

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HPA-26	193	Construction Equipment	Equipment used for this project shall be free of external petroleum-based products while working around the river. Equipment shall be checked daily for leaks and any necessary repairs shall be completed prior to commencing work activities along the river.	Construction (Design-Builder)	
NEPA/MO A/UDP-1	194	Procedures for Discovery of Cultural Resources	If any WSDOT employee, contractor or subcontractor believes that he or she has uncovered a cultural resource (including prehistoric or historic materials and/or human skeletal remains) at any point in the project, all work adjacent to the discovery must stop. The Design-Builder shall secure the discovery location at all times.	WSDOT/Design-Builder	Special Conditions
NEPA/MO A/UDP-2	195	Procedures for Discovery of Cultural Resources	The Design-Builder shall contact the WSDOT engineer in the event that cultural resources are encountered at any point in the project.	Construction (Design-Builder)	Special Conditions
NEPA/MO A/UDP-3	196	Procedures for Discovery of Cultural Resources	Project construction outside the discovery location may continue while documentation and assessment of the cultural resources proceed. A WSDOT CR Specialist must determine the boundaries of the discovery location.	WSDOT/Design-Builder	Special Conditions
NEPA/MO A-1	197	Meridian Street Bridge Treatment Plan	Design-Builder shall present to the WSDOT engineer a plan to move the bridge using appropriate measures to ensure the historical and structural integrity of the steel truss in accordance with industry standards for transportation structures. WSDOT Bridge Engineers shall review and approve the detailed plans and structural calculations for the means and methods of picking and moving the steel truss.	WSDOT/Design-Builder	Special Conditions
NEPA/MO A-2	198	Meridian Street Bridge Treatment Plan	Design-Builder shall move the bridge to a location selected by the WSDOT Engineer. The steel truss shall be supported at each pin point of the truss, with temporary footings to keep the structure at least 3' above ground. The temporary supports and the details for removal and moving the truss, will be designed by and bear the seal of a licensed professional structural engineer.	WSDOT/Design-Builder	Special Conditions
NEPA/MO A-3	199	Meridian Street Bridge Treatment Plan	Design-Builder shall address any significant corrosion issues by removing rust and re-painting locations of the steel truss as necessary to assure structural integrity during storage, as directed by the WSDOT engineer. The steel truss shall be secured with fencing.	WSDOT/Design-Builder	Special Conditions
NEPA-01	200	Energy and Natural Resources; Transportation	The Design-Builder shall encourage carpooling of workers to the site.	Traffic (Design-Builder)	Special Conditions
NEPA-02	201	Economic Impacts; Energy and Natural Resources	The Design-Builder shall purchase construction materials from local suppliers as much as possible, to limit fuel consumption associated with material transport.	Construction (Design-Builder)	Special Conditions
NEPA-03	202	Access Road Provisions; Energy and Natural Resources; Equipment Provisions; Excavation	The Design-Builder shall set up active construction areas, staging areas, and material transfer sites in ways that reduce equipment and vehicle idling. WSDOT and the Design-Builder shall work together to promote ridesharing and other commute trip reduction efforts for employees working on the project.	Construction (Design-Builder)	Special Conditions
NEPA-04	203	Protection of sensitive areas	The Design-Builder shall install high visibility fencing around the Fort Maloney historical marker, and preserve and protect the delineated area throughout the life of the project; acting immediately to repair or restore any fencing damaged or destroyed.	Construction (Design-Builder)	High visibility fencing
NPDES SW-001	204	Clearing and Grading; Permit Coverage	1. Operators of the following construction activities are required to seek coverage under this permit: a. Clearing, grading and/or excavation which results in the disturbance of one or more acres, and discharges storm water to surface waters of the State; and clearing, grading and/or excavation on sites smaller than 1 acre which are part of a larger common plan of development or sale, if the common plan of development or sale will ultimately disturb 1 acre or more, and discharges storm water to surface waters of the State. i. This includes forest practices that are part of a construction activity that will result in the disturbance of one or more acres, and discharges to surface waters of the State (i.e., forest practices which are preparing a site for construction activities).	Design-Builder	Operators Required to Seek Coverage Under this General Permit
NPDES SW-002	205	Permit Coverage; SPCCP Requirements; TESCP Requirements; Water Quality	This permit also authorizes storm water discharges from support activities related to the permitted construction site (e.g., an onsite portable rock crusher, offsite equipment staging yards, material storage areas, borrow areas, etc.) provided: a. The support activity is directly related to the permitted construction site that is required to have a National Pollutant Discharge Elimination System (NPDES) Permit; and b. The support activity is not a commercial operation serving multiple unrelated construction projects, and does not operate beyond the completion of the construction activity; and c. Appropriate controls and measures are identified in the Stormwater Pollution Prevention Plan (SWPPP; or the temporary erosion and sediment control plan [TESCP] or Spill Prevention Control and Countermeasures Plan [SPCCP]) for the discharges from the support activity areas.	Design-Builder	Stormwater Associated with Construction Support Activity
NPDES SW-003	206	Water Quality	The Design-Builder is responsible for ensuring that discharges shall not cause or contribute to a violation of surface water quality standards (Chapter 173-201A WAC), ground water quality standards (Chapter 173-200 WAC), sediment management standards (Chapter 173-204 WAC), and human health-based criteria in the National Toxics Rule (40 CFR Part 131.36). Discharges that are not in compliance with these standards are not authorized.	Design-Builder	Compliance with Standards

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NPDES SW-004	207	Erosion Control; Submittal Requirements; TЕСP Requirements	Prior to the discharge of storm water and non-storm water to waters of the State, the Design-Builder shall apply all known, available, and reasonable methods of prevention, control, and treatment (AKART). This includes the preparation and implementation of an adequate Stormwater Pollution Prevention Plan (SWPPP; or TЕСP or SPCCP), with all appropriate best management practices (BMPs) installed and maintained in accordance with the SWPPP (or TЕСP or SPCCP) and the terms and conditions of this permit.	Design-Builder	Compliance with Standards
NPDES SW-005	208	Water Quality	Compliance with water quality standards shall be presumed, unless discharge monitoring data or other site specific information demonstrates that a discharge causes or contributes to a violation of water quality standards, when the Design-Builder is: 1. In full compliance with all permit conditions, including planning, sampling, monitoring, reporting, and recordkeeping conditions; and 2. Fully implementing storm water BMPs contained in storm water management manuals published or approved by Ecology, or BMPs that are demonstrably equivalent to BMPs contained in storm water technical manuals published or approved by Ecology, including the proper selection, implementation, and maintenance of all applicable and appropriate BMPs for onsite pollution control.	Design-Builder	Compliance with Standards
NPDES SW-006	209	Ground Water Quality	For sites that discharge to both surface water and ground water, all ground water discharges are also subject to the terms and conditions of this permit. If the Design-Builder plans to discharge to ground water through an injection well, the Design-Builder shall comply with any applicable requirements of the Underground Injection Control (UIC) regulations, Chapter 173-218 WAC.	Design-Builder	Compliance with Standards
NPDES SW-007	210	BMP Inspection and Maintenance; BMP Installation; Monitoring Requirements; Recordkeeping; SPCCP Requirements; TЕСP Requirements	The Design-Builder shall maintain a site log book that contains a record of the implementation of the SWPPP (or TЕСP or SPCCP) and other permit requirements including the installation and maintenance of BMPs, site inspections, and storm water monitoring.	Design-Builder	Site Log Book
NPDES SW-008	211	BMP Inspection and Maintenance; Recordkeeping; SPCCP Requirements; TЕСP Requirements	The Design-Builder's site inspections shall include all areas disturbed by construction activities, all BMPs, and all storm water discharge points. The Design-Builder shall visually examine storm water for the presence of suspended sediment, turbidity, discoloration, and oil sheen. Inspectors shall evaluate the effectiveness of BMPs and determine if it is necessary to install, maintain, or repair BMPs to improve the quality of storm water discharges. Based on the results of the inspection, the Design-Builder shall correct the problems identified as follows: (a) Review the SWPPP (or TЕСP) for compliance with Condition S9 and make appropriate revisions within 7 days of the inspection; and (b) Fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, but no later than 10 days of the inspection; and document BMP implementation and maintenance in the site log book. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when an extension is requested by the Design-Builder within the initial 10-day response period.	Design-Builder	Site Inspections
NPDES SW-009	212	BMP Inspection and Maintenance; SPCCP Requirements; TЕСP Requirements; Timing Requirements	Site inspections shall be conducted by the Design-Builder at least once every calendar week and within 24 hours of any discharge from the site. The inspection frequency for temporarily stabilized, inactive sites may be reduced to once every calendar month, at the sole discretion of WSDOT.	Design-Builder	Site Inspections
NPDES SW-010	213	BMP Inspection and Maintenance; Erosion Control	The Design-Builder shall ensure site inspections are conducted by a person who is knowledgeable in the principles and practices of erosion and sediment control. The inspector shall have the skills to: a. Assess the site conditions and construction activities that could impact the quality of storm water, and b. Assess the effectiveness of erosion and sediment control measures used to control the quality of storm water discharges.	Design-Builder	Site Inspections
NPDES SW-011	214	BMP Inspection and Maintenance; Erosion Control; TЕСP Requirements	Construction sites 1 acre or larger that discharge storm water to surface waters of the State, shall have site inspections conducted by a Certified Erosion and Sediment Control Lead (CESCL). The Design-Builder shall identify a CESCL in the SWPPP (or TЕСP) who will be present onsite or on-call at all times. Certification shall be obtained through an approved erosion and sediment control training program that meets the minimum training standards established by Ecology (refer to BMP C160 in the Manual).	Design-Builder	Site Inspections
NPDES SW-012	215	BMP Inspection and Maintenance; Erosion Control; Monitoring Requirements; SPCCP Requirements; Submittal Requirements; TЕСP Requirements	The Design-Builder's inspector shall summarize the results of each inspection in an inspection report or checklist and be entered into, or attached to, the site log book. At a minimum, each inspection report or checklist shall include: a. Inspection date and time. B. Weather information; general conditions during inspection and approximate amount of precipitation since the last inspection, and within the last 24 hours. C. A summary or list of all BMPs that have been implemented, including observations of all erosion/sediment control structures or practices. D. The following shall be noted: i. locations of BMPs inspected, ii. Locations of BMPs that need maintenance, iii. The reason maintenance is needed, iv. Locations of BMPs that failed to operate as designed or intended, and v. locations where additional or different BMPs are needed, and the reason(s) why. E. A description of storm water discharged from the site. The inspector shall note the presence of suspended sediment, turbid water, discoloration, and/or oil sheen, as applicable. ** This commitment is continued in ID #304.**	Design-Builder	Site Inspections

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NPDES SW-013	216	Monitoring Requirements; Sampling; TESC Requirements; Water Quality	If construction activity will involve the disturbance of 5 acres or more, the Design-Builder shall conduct turbidity sampling per Condition S4.C.	Design-Builder	Sampling Methods/Effective Dates
NPDES SW-014	217	Monitoring Requirements; Sampling; TESC Requirements; Water Quality	Sampling Frequency a. Sampling shall be conducted by the Design-Builder at least once every calendar week, when there is a discharge of storm water (or authorized non-storm water) from the site. Samples shall be representative of the flow and characteristics of the discharge. b. When there is no discharge during a calendar week, sampling is not required. c. Sampling is not required outside of normal working hours or during unsafe conditions. If the Design-Builder is unable to sample during a monitoring period, the Discharge Monitoring Report (DMR) shall include a brief explanation.	Design-Builder	Sampling Frequency
NPDES SW-015	218	Monitoring Requirements; Sampling; TESC Requirements; Water Quality	Sampling Locations a. Sampling is required at all discharge points where storm water (or authorized nonstorm water) is discharged offsite. b. The Design-Builder shall identify all sampling point(s) on the SWPPP (or TESC or Water Quality Monitoring Plan) site map and clearly mark sampling locations in the field with a flag, tape, stake or other visible marker.	Design-Builder	Sampling Locations
NPDES SW-016	219	Monitoring Requirements; Sampling; TESC Requirements; Water Quality	Sampling and Analysis Methods a. The Design-Builder shall perform Turbidity analysis with a calibrated turbidity meter (turbidimeter), either onsite or at an accredited lab. The results shall be recorded in the site log book in Nephelometric Turbidity Units (NTU).	Design-Builder	Sampling and Analysis Methods
NPDES SW-017	220	Notification Requirements; Sampling; TESC Requirements; Water Quality	Turbidity Benchmark Values: The benchmark value for turbidity is 25 NTU (Nephelometric Turbidity Units); Turbidity 26 – 249 NTU: If discharge turbidity is greater than 25 NTU, but less than 250 NTU, the Design-Builder's CESCL shall: (1) Review the SWPPP (or TESC or Water Quality Monitoring Plan) for compliance with Condition S9 and make appropriate revisions within 7 days of the discharge that exceeded the benchmark; and (2) Fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, but within 10 days of the discharge that exceeded the benchmark; and (3) Document BMP implementation and maintenance in the site log book. Turbidity 250 NTU or greater: If discharge turbidity is greater than or equal to 250 NTU, the Design-Builder's CESCL shall: (1) Notify WSDOT so WSDOT can notify Ecology by phone in accordance with Condition S5.A.; and (2) Review the SWPPP (or TESC or Water Quality Monitoring Plan) for compliance with Condition S9 and make appropriate revisions within 7 days of the discharge that exceeded the benchmark; and (3) Fully implement and maintain appropriate source control and/or treatment BMPs as (4) Document BMP implementation and maintenance in the site log book; and (5) Continue to sample discharges daily until: (a) turbidity is 25 NTU (or lower); or (b) the CESCL has demonstrated compliance with the water quality standard for turbidity: (i) no more than 5 NTU over background turbidity, if background is less than 50 NTU, or (ii) no more than 10% over background turbidity, if background is 50 NTU or greater; or (iii) the discharge stops or is eliminated.	Design-Builder	Turbidity/Transparency Benchmark Values
NPDES SW-018	221	Concrete Work; Monitoring Requirements; Sampling; TESC Requirements; Water Quality	pH Monitoring: Sites with Significant Concrete Work or Engineered Soils Beginning October 1, 2006, if construction activity will result in the disturbance of 1 acre or more, and involves significant concrete work or the use of engineered soils, and storm water from the affected area drains to surface waters of the State or to a storm sewer system that drains to surface waters of the State, the Design-Builder shall conduct pH monitoring as set forth in provisions S4.D.1 through S4.D.6 of this permit.	Design-Builder	pH Monitoring: Sites with Significant Concrete Work or Engineered Soils
NPDES SW-019	222	Concrete Work; Monitoring Requirements; Sampling; TESC Requirements; Water Quality	1. For sites with significant concrete work, the Design-Builder shall ensure the pH monitoring period commences when the concrete is first exposed to precipitation and shall continue weekly until storm water pH is 8.5 or less. a. "Significant concrete work" means greater than 1000 cubic yards poured concrete or recycled concrete.	Design-Builder	pH Monitoring: Sites with Significant Concrete Work or Engineered Soils
NPDES SW-020	223	Concrete Work; Monitoring Requirements; Sampling; TESC Requirements; Water Quality	2. For sites with engineered soils, the Design-Builder shall ensure the pH monitoring period commences when the soil amendments are first exposed to precipitation and continues until the area of engineered soils is fully stabilized. "Engineered soils" means soil amendments including, but not limited, to Portland cement treated base (CTB), cement kiln dust (CKD), or fly ash.	Design-Builder	pH Monitoring: Sites with Significant Concrete Work or Engineered Soils
NPDES SW-021	224	Concrete Work; Monitoring Requirements; Sampling; TESC Requirements; Water Quality	3. During the pH monitoring period, the Design-Builder shall obtain a representative sample of storm water and conduct pH analysis at least once per week.	Design-Builder	pH Monitoring: Sites with Significant Concrete Work or Engineered Soils
NPDES SW-022	225	Concrete Work; Monitoring Requirements; Sampling; TESC Requirements; Visual Quality	4. The Design-Builder shall monitor pH in the sediment trap/pond(s) or other locations that receive storm water runoff from the area of significant concrete work or engineered soils prior to discharge to surface waters.	Design-Builder	pH Monitoring: Sites with Significant Concrete Work or Engineered Soils

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NPDES SW-023	226	Concrete Work; Monitoring Requirements; Sampling; TESC Requirements; Water Quality	5. The benchmark value for pH is 8.5 standard units. Any time sampling indicates that pH is 8.5 or greater, the Design-Builder shall: a. Prevent the high pH water (8.5 or above) from entering storm sewer systems or surface waters; and b. If necessary, adjust or neutralize the high pH water using an appropriate treatment BMP such as CO2 sparging or dry ice. The Design-Builder shall obtain written approval from Ecology prior to using any form of chemical treatment other than CO2 sparging or dry ice.	Design-Builder	pH Monitoring: Sites with Significant Concrete Work or Engineered Soils
NPDES SW-024	227	Concrete Work; Monitoring Requirements; Sampling; TESC Requirements; Water Quality	6. The Design-Builder shall perform pH analysis onsite with a calibrated pH meter, pH test kit, or wide range pH indicator paper. The Design-Builder shall record pH monitoring results in the site log book.	Design-Builder	pH Monitoring: Sites with Significant Concrete Work or Engineered Soils
NPDES SW-025	228	Notification Requirements; Reporting Requirements; Sampling; TESC Requirements; Water Quality	A. High Turbidity Phone Reporting Any time sampling performed in accordance with Special Condition S4.C indicates turbidity is 250 NTU or greater the Design-Builder shall immediately notify WSDOT and the appropriate Ecology regional office by phone within 24 hours of analysis.	WSDOT/Design-Builder	High Turbidity Phone Reporting
NPDES SW-026	229	Monitoring Requirements; Recordkeeping; Reporting Requirements; Sampling; Submittal Requirements; TESC Requirements; Water Quality	Discharge Monitoring Reports 1. When the Design-Builder conducts water quality sampling in accordance with Special Conditions S.4.C (Turbidity/Transparency), S4.D (pH) and/or S8 [303(d)/TMDL sampling] the Design-Builder shall submit the results to Ecology.	WSDOT/Design-Builder	Discharge Monitoring Reports
NPDES SW-027	230	Monitoring Requirements; Reporting Requirements; Sampling; Submittal Requirements; TESC Requirements	The Design-Builder shall submit DMR forms electronically or by mail to Ecology within 15 days following the end of each month and provide a copy to WSDOT for their records. If there was no discharge during a given monitoring period, the Design-Builder shall submit the form as required with the words "no discharge" entered in place of the monitoring results. If the Design-Builder is unable to submit discharge monitoring reports electronically, the Design-Builder may mail reports to the address listed below: Department of Ecology Water Quality Program -Construction Stormwater PO Box 47696 Olympia, Washington 98504-7696 The Design-Builder must submit monitoring data using Ecology's WebDMR program. If the Design-Builder obtains a waiver not to use WebDMR, they must use the forms provided to them by Ecology; submittals must be mailed to Ecology. The Design-Builder shall submit DMR forms to be received by Ecology within 15 days following the end of each month. If there was no discharge during a given monitoring period, the Design-Builder must submit a DMR as required with "no discharge" entered in place of the monitoring results.	Environmental (WSDOT)	Discharge Monitoring Reports
NPDES SW-028	231	BMP Inspection and Maintenance; Monitoring Requirements; Recordkeeping	The Design-Builder shall retain records of all monitoring information (site log book, sampling results, inspection reports/checklists, etc.), Stormwater Pollution Prevention Plan (or TESC or SPCCP), and any other documentation of compliance with permit requirements during the life of the construction project. This information shall be retained by the Design-Builder for a minimum of 3 years following the termination of permit coverage. Such information shall include all calibration and maintenance records, and records of all data used to complete the application for this permit. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.	WSDOT/Design-Builder	Records Retention
NPDES SW-029	232	Monitoring Requirements; Recordkeeping; Sampling; TESC Requirements; Water Quality	For each measurement or sample taken, the Design-Builder shall record the following information: 1. Date, place, method, and time of sampling or measurement; 2. The individual who performed the sampling or measurement; 3. The dates the analyses were performed; 4. The individual who performed the analyses; 5. The analytical techniques or methods used; and 6. The results of all analyses.	Design-Builder	Recording of Results
NPDES SW-030	233	Monitoring Requirements; Recordkeeping; Reporting Requirements; Sampling; TESC Requirements; Water Quality	If the Design-Builder monitors any pollutant more frequently than required by this permit using test procedures specified by Condition S4 of this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report.	Design-Builder	Additional Monitoring by the Permittee
NPDES SW-031	234	Monitoring Requirements; Notification Requirements; Sampling; Submittal Requirements; TESC Requirements	In the event the Design-Builder is unable to comply with any of the terms and conditions of this permit that may cause a threat to human health or the environment, the Design-Builder shall: 1. Immediately notify WSDOT and Ecology of the failure to comply. 2. Immediately take action to prevent the discharge/pollution, or otherwise stop or correct the noncompliance, and, if applicable, repeat sampling and analysis of any noncompliance immediately and submit the results to WSDOT and Ecology within five (5) days after becoming aware of the violation.	WSDOT/Design-Builder	Noncompliance Notification
NPDES SW-032	235	Recordkeeping	Access to Plans and Records 1. The Design-Builder and the Permittee (WSDOT) shall retain the following permit documentation (plans and records) onsite, or within reasonable access to the site, for use by the operator; or onsite review by Ecology or the local jurisdiction: a. General Permit; b. Permit Coverage Letter; c. SWPPP (or TESC or SPCCP); and d. Site Log Book.	WSDOT/Design-Builder	Access to Plans and Records

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NPDES SW-033	236	Recordkeeping; Submittal Requirements	Upon receiving a written request from the public for the Design-Builders plans and records, the Design Builder shall either: i. Provide a copy of the plans and records to the requestor within 14 days of receipt of the written request; or ii. Notify the requestor within 10 days of receipt of the written request of the location and times within normal business hours when the plans and records may be viewed, and provide access to the plans and records within 14 days of receipt of the written request; or iii. Within 14 days of receipt of the written request, the Design-Builder may submit a copy of the plans and records to Ecology for viewing and/or copying by the requestor at an Ecology office, or a mutually agreed upon location. If plans and records are viewed and/or copied at a location other than at an Ecology office, the Design-Builder will provide reasonable access to copying services for which a reasonable fee may be charged. The Permittee shall notify the requestor within 10 days of receipt of the request where the plans and records may be viewed and/or copied.	WSDOT/Design-Builder	Access to Plans and Records
NPDES SW-034	237	Demolition Activities; Drainage Facilities; Hazardous Materials; Solid and Liquid Waste Disposal	Solid and liquid wastes generated by construction activity such as demolition debris, construction materials, contaminated materials, and waste materials from maintenance activities, including liquids and solids from cleaning catch basins and other storm water facilities, shall be handled and disposed of by the Design-Builder in accordance with: 1. Special Condition S3, Compliance with Standards, and 2. WAC 173-216-110, and other applicable regulations.	Design-Builder	Solid and Liquid Waste Disposal
NPDES SW-035	238	Monitoring Requirements; Permit Coverage; Sampling; Water Quality	Sampling and Numeric Effluent Limitations For Discharges to 303(d)-listed Waterbodies 1. If the Design-Builder discharges to water bodies listed as impaired by the State of Washington under Section 303(d) of the Clean Water Act for turbidity, fine sediment, high pH, or phosphorus, the Design-Builder shall conduct water quality sampling according to the requirements of this section. 2. All references and requirements associated with Section 303(d) of the Clean Water Act mean the most current listing by Ecology of impaired waters that exists on January 1, 2011 or the date when the operator's complete permit application is received by Ecology, whichever is later.	Design-Builder	Sampling and Numeric Effluent Limitations For Discharges to 303(d)-Listed Waterbodies
NPDES SW-036	239	Monitoring Requirements; Sampling; TESC Requirements; Water Quality	If there are discharges to waterbodies on the 303(d) list for turbidity, fine sediment, or phosphorus the Design-Builder shall conduct turbidity sampling at the following locations to evaluate compliance with the water quality standard for turbidity: a. Background turbidity shall be measured in the 303(d)-listed receiving water immediately upstream (upgradient) or outside the area of influence of the discharge; and b. Discharge turbidity shall be measured at the point of discharge into the 303(d) listed receiving waterbody, inside the area of influence of the discharge; or Alternatively, discharge turbidity may be measured at the point where the discharge leaves the construction site, rather than in the receiving waterbody.	Design-Builder	Discharges to 303(d)-Listed Waterbodies (Turbidity, Fine Sediment, or Phosphorus)
NPDES SW-037	240	Sampling; TESC Requirements; Water Quality	If the Design-Builder discharges to segments of water bodies on the 303(d) list (Category 5) for turbidity, fine sediment, or phosphorus must conduct turbidity sampling in accordance with Special Condition S4.C.2 and comply with either of the numeric effluent limits noted in Table 5. As an alternative to the 25 NTU effluent limit noted in Table 5 (applied at the point where storm water [or authorized non-storm water] is discharged offsite), the Design-Builder may choose to comply with the surface water quality standard for turbidity. The standard is: no more than 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or more than a 10% increase in turbidity when the background turbidity is more than 50 NTU.	Design-Builder	Discharges to 303(d)-Listed Waterbodies (Turbidity, Fine Sediment, or Phosphorus)
NPDES SW-038	241	BMP Inspection and Maintenance; Monitoring Requirements; Notification Requirements; Sampling; TESC Requirements; Water Quality	Discharges that exceed the numeric effluent limit for turbidity constitute a violation of this permit. If a discharge exceeds the numeric effluent limit the Design-Builder shall sample discharges daily until the violation is corrected, notify WSDOT immediately, and comply with the non-compliance notification requirements in Special Condition S5.F.	Design-Builder	Discharges to 303(d)-Listed Waterbodies (Turbidity, Fine Sediment, or Phosphorus)
NPDES SW-039	242	Monitoring Requirements; Sampling	Discharges to waterbodies on the 303(d) list for High pH 1) Permittees that discharge to waterbodies on the 303(d) list for high pH shall conduct sampling at one of the following locations to evaluate compliance with the water quality standard for pH (in the range of 6.5-8.5). A. pH shall be measured at the point of discharge into the 303(d) listed waterbody, inside the area of influence of the discharge, or B. Alternatively, pH may be measured at the point where the discharge leaves the construction site. rather than in the receiving water.	Design-Builder	Discharges to waterbodies on the 303(d) list for high pH
NPDES SW-040	243	Monitoring Requirements; Sampling	2. Based on the sampling set forth above, if the pH exceeds the water quality standard for pH (in the range of 6.5 and 8.5), all future discharges shall comply with a numeric effluent limit that is equal to the water quality standard for pH.	Design Builder	Discharges to waterbodies on the 303(d) list for high pH
NPDES SW-041	244	Monitoring Requirements; Notification Requirements; Sampling	3. Discharges that exceed the numeric effluent limit for pH (outside the range of 6.5-8.5 su) constitute a violation of the permit. If a discharge exceeds the numeric effluent limit the Design-Builder shall sample discharges daily until the violation is corrected, notify WSDOT immediately, and comply with the non-compliance notification requirements in Special Condition S5.F.	WSDOT/Design-Builder	Discharges to waterbodies on the 303(d) list for high pH.

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NPDES SW-042	245	Erosion Control; SPCCP Requirements; Submittal Requirements; TESC Requirements	An adequate SWPPP (or TESC or SPCCP) for construction activity shall be prepared and implemented by the Design-Builder in accordance with the requirements of this permit beginning with initial soil disturbance and until final stabilization.	Design-Builder	Stormwater Pollution Prevention Plan
NPDES SW-043	246	SPCCP Requirements; Submittal Requirements; TESC Requirements	The Design-Builder's SWPPP (or TESC or SPCCP) shall meet the following objectives: 1. To implement Best Management Practices (BMPs) to prevent erosion and sedimentation, and to identify, reduce, eliminate or prevent storm water contamination and water pollution from construction activity. 2. To prevent violations of surface water quality, ground water quality, or sediment management standards. 3. To control peak volumetric flow rates and velocities of storm water discharges.	Design-Builder	The SWPPP shall meet the following objectives
NPDES SW-044	247	TESC Requirements	The Design-Builder's SWPPP (or TESC) shall include a narrative and drawings. All BMPs shall be clearly referenced in the narrative and marked on the drawings. The Design-Builder's SWPPP (or TESC) narrative shall include documentation to explain and justify the pollution prevention decisions made for the project. Documentation shall include: a. Information about existing site conditions (topography, drainage, soils, vegetation, etc.); b. Potential erosion problem areas; c. The 12 elements of a SWPPP in S9.D.1-12, including BMPs used to address each element; d. Construction phasing/sequence and general BMP implementation schedule; e. The actions to be taken if BMP performance goals are not achieved; and f. Engineering calculations for ponds and any other designed structures.	Design-Builder	General Requirements
NPDES SW-045	248	BMP Inspection and Maintenance; Monitoring Requirements; SPCCP Requirements; TESC Requirements	The Design-Builder shall modify the SWPPP (or TESC or SPCCP) if, during inspections or investigations conducted by the owner/operator, or the applicable local or state regulatory authority, it is determined that the SWPPP (or TESC or SPCCP) is, or would be, ineffective in eliminating or significantly minimizing pollutants in storm water discharges from the site. The Design-Builder shall take the following actions: a. Review the SWPPP (or TESC) for compliance with Condition S9 and make appropriate revisions within 7 days of the inspection or investigation; b. Fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, but no later than 10 days from the inspection or investigation; and c. Document BMP implementation and maintenance in the site log book.	Design-Builder	General Requirements
NPDES SW-046	249	Recordkeeping; SPCCP Requirements; TESC Requirements	The Design-Builder shall modify the SWPPP (or TESC or SPCCP) whenever there is a change in design, construction, operation, or maintenance at the construction site that has, or could have, a significant effect on the discharge of pollutants to waters of the State.	Design-Builder	General Requirements
NPDES SW-047	250	SPCCP Requirements; TESC Requirements	The Design-Builder shall include each of the 12 elements in S9.D.1-12 in the narrative of the SWPPP (or TESC or SPCCP) and ensure that they are implemented unless site conditions render the element unnecessary and the exemption from that element is clearly justified in the SWPPP (or TESC or SPCCP).	Design-Builder	SWPPP -Narrative Contents and Requirements
NPDES SW-048	251	BMP Installation; Clearing and Grading; Delineation and Fencing; TESC Requirements	1. Preserve Vegetation/Mark Clearing Limits a. Prior to beginning land disturbing activities, including clearing and grading, the Design-Builder shall clearly mark all clearing limits, environmentally sensitive areas and their buffers, and trees that are to be preserved within the construction area with high-visibility construction fencing. b. The Design-Builder shall retain the duff layer, native top soil, and natural vegetation in an undisturbed state to the maximum degree practicable.	Design-Builder	Preserve Vegetation/Mark Clearing Limits
NPDES SW-049	252	Access Road Provisions; Clearing and Grading; Fugitive Dust Control; TESC Requirements	a. The Design-Builder shall limit construction vehicle access and exit to one route, if possible.	Design-Builder	Establish Construction Access
NPDES SW-050	253	Access Road Provisions; BMP Installation; Fugitive Dust Control; Stabilization of Entry/Exit Points; TESC Requirements	b. The Design-Builder shall stabilize access points with a pad of quarry spalls, crushed rock, or other equivalent BMP, to minimize the tracking of sediment onto public roads.	Design-Builder	Establish Construction Access
NPDES SW-051	254	Access Road Provisions; BMP Installation; Fugitive Dust Control; Stabilization of Entry/Exit Points; TESC Requirements	c. The Design-Builder shall ensure wheel wash or tire baths are located onsite, if the stabilized construction entrance is not effective in preventing sediment from being tracked onto public roads.	Design-Builder	Establish Construction Access
NPDES SW-052	255	Fugitive Dust Control; TESC Requirements	d. If sediment is tracked off site, the Design-Builder shall ensure public roads are cleaned thoroughly at the end of each day, or more frequently during wet weather. Sediment shall be removed from roads by shoveling or pickup sweeping and shall be transported to a controlled sediment disposal area.	Design-Builder	Establish Construction Access
NPDES SW-053	256	Fugitive Dust Control; TESC Requirements	e. Street washing is allowed only after sediment is removed in accordance with S9.D.2.d. The Design-Builder shall ensure street wash wastewater is controlled by pumping back onsite or otherwise be prevented from discharging into systems tributary to waters of the State.	Design-Builder	Establish Construction Access

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NPDES SW-054	257	Drainage Facilities; Erosion Control; TЕСP Requirements	Control Flow Rates a. The Design-Builder shall ensure properties and waterways downstream from development sites are protected from erosion due to increases in the velocity and peak volumetric flow rate of storm water runoff from the project site, as required by local plan approval authority.	Design-Builder	Control Flow Rates
NPDES SW-055	258	BMP Installation; Clearing and Grading; Drainage Facilities; TЕСP Requirements; Timing Requirements	b. Where necessary to comply with S9.D.3.a. of the NPDES, storm water retention or detention facilities shall be constructed by the Design-Builder as one of the first steps in grading. The Design-Builder shall ensure detention facilities are functional prior to construction of site improvements (e.g., impervious surfaces).	Design-Builder	Control Flow Rates
NPDES SW-056	259	BMP Inspection and Maintenance; Drainage Facilities; TЕСP Requirements	c. If permanent infiltration ponds are used for flow control during construction, the Design-Builder shall ensure these facilities are protected from siltation during the construction phase.	Design-Builder	Control Flow Rates
NPDES SW-057	260	BMP Installation; Drainage Facilities; TЕСP Requirements	Install Sediment Controls a. The Design-Builder shall ensure storm water runoff from disturbed areas will pass through a sediment pond or other appropriate sediment removal BMP, prior to leaving a construction site. Runoff from fully stabilized areas may be discharged without a sediment removal BMP, but shall meet the flow control performance standard of S9.D.3.a of the NPDES.	Design-Builder	Install Sediment Controls
NPDES SW-058	261	BMP Installation; Clearing and Grading; Drainage Facilities; TЕСP Requirements; Timing Requirements	b. The Design-Builder shall construct sediment control BMPs (sediment ponds, traps, filters, etc.) as one of the first steps in grading. These BMPs shall be functional before other land disturbing activities take place.	Design-Builder	Install Sediment Controls
NPDES SW-059	262	BMP Installation; Fish Passage; Fish, Aquatic Habitat, and T&E Fish Species; TЕСP Requirements	c. BMPs intended to trap sediment onsite shall be located in a manner to avoid interference with the movement of juvenile salmonids attempting to enter off-channel areas or drainages.	Design-Builder	Install Sediment Controls
NPDES SW-060	263	BMP Installation; Clearing and Grading; Erosion Control; Fugitive Dust Control; TЕСP Requirements	Stabilize Soils a. The Design-Builder shall stabilize exposed and unworked soils by application of effective BMPs that prevent erosion. Applicable BMPs include, but are not limited to: temporary and permanent seeding, sodding, mulching, plastic covering, erosion control fabrics and matting, soil application of polyacrylamide (PAM), the early application of gravel base on areas to be paved, and dust control.	Design-Builder	Stabilize Soils
NPDES SW-061	264	BMP Inspection and Maintenance; Clearing and Grading; Erosion Control; TЕСP Requirements; Timing Requirements	b. The Design-Builder shall ensure no soils remain exposed and unworked for more than the time periods set forth below to prevent erosion: During the dry season (May 1 -Sept. 30): 7 days. During the wet season (October 1 -April 30): 2 days".	Design-Builder	Stabilize Soils
NPDES SW-062	265	BMP Inspection and Maintenance; Erosion Control; TЕСP Requirements; Timing Requirements	c. The Design-Builder shall ensure soils are stabilized at the end of the shift before a holiday or weekend if needed based on the weather forecast.	Design-Builder	Stabilize Soils
NPDES SW-063	266	BMP Inspection and Maintenance; Clearing and Grading; Erosion Control; TЕСP Requirements	d. The Design-Builder shall ensure soil stockpiles are stabilized from erosion, protected with sediment trapping measures, and where possible, be located away from storm drain inlets, waterways, and drainage channels.	Design-Builder	Stabilize Soils
NPDES SW-064	267	Clearing and Grading; Erosion Control; Roadway Design; TЕСP Requirements	Protect Slopes a. The Design-Builder shall design and construct cut and fill slopes in a manner that will minimize erosion. Applicable practices include, but are not limited to, reducing continuous length of slope with terracing and diversions, reducing slope steepness, and roughening slope surfaces (e.g., track walking).	Design-Builder	Protect Slopes
NPDES SW-065	268	Drainage Facilities; TЕСP Requirements	b. The Design-Builder shall divert offsite storm water (run-on) or ground water away from slopes and disturbed areas with interceptor dikes, pipes, and/or swales. The Design-Builder shall manage offsite storm water separately from storm water generated on the site.	Design-Builder	Protect Slopes
NPDES SW-066	269	Drainage Facilities; Erosion Control; TЕСP Requirements	c. At the top of slopes, the Design-Builder shall collect drainage in pipe slope drains or protected channels to prevent erosion. i. West of the Cascade Mountains Crest: Temporary pipe slope drains shall handle the peak 10 minute velocity of flow from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Alternatively, the 10-year, 1-hour flow rate predicted by an approved continuous runoff model, increased by a factor of 1.6, may be used. The hydrologic analysis shall use the existing land cover condition for predicting flow rates from tributary areas outside the project limits. For tributary areas on the project site, the analysis shall use the temporary or permanent project land cover condition, whichever will produce the highest flow rates. If using the WWHM to predict flows, bare soil areas should be modeled as "landscaped area."	Design-Builder	Protect Slopes

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NPDES SW-067	270	Clearing and Grading; TЕСP Requirements	d. The Design-Builder shall place excavated material on the uphill side of trenches, consistent with safety and space considerations.	Design-Builder	Protect Slopes
NPDES SW-068	271	BMP Inspection and Maintenance; BMP Installation; Erosion Control; TЕСP Requirements	e. The Design-Builder shall place check dams at regular intervals within constructed channels that are cut down a slope.	Design-Builder	Protect Slopes
NPDES SW-069	272	BMP Inspection and Maintenance; BMP Installation; Drainage Facilities; TЕСP Requirements	Protect Drain Inlets a. The Design-Builder shall protect all storm drain inlets made operable during construction so that storm water runoff does not enter the conveyance system without first being filtered or treated to remove sediment.	Design-Builder	Protect Drain Inlets
NPDES SW-070	273	BMP Inspection and Maintenance; TЕСP Requirements	b. Inlet protection devices shall be cleaned or removed and replaced by the Design-Builder when sediment has filled one-third of the available storage (unless a different standard is specified by the product manufacturer).	Design-Builder	Protect Drain Inlets
NPDES SW-071	274	Drainage Facilities; Erosion Control; TЕСP Requirements	Stabilize Channels and Outlets a. The Design-Builder shall design, construct, and stabilize all temporary onsite conveyance channels to prevent erosion from the following expected peak flows: i. West of the Cascade Mountains Crest: Channels shall handle the peak 10 minute velocity of flow from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Alternatively, the 10-year, 1-hour flow rate indicated by an approved continuous runoff model, increased by a factor of 1.6, may be used. The hydrologic analysis shall use the existing land cover condition for predicting flow rates from tributary areas outside the project limits. For tributary areas on the project site, the analysis shall use the temporary or permanent project land cover condition, whichever will produce the highest flow rates. If using the WWHM to predict flows, bare soil areas should be modeled as "landscaped area."	Design-Builder	Stabilize Channels and Outlets
NPDES SW-072	275	Drainage Facilities; Erosion Control; TЕСP Requirements	b. Stabilization, including armoring material, adequate to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches shall be provided by the Design-Builder at the outlets of all conveyance systems.	Design-Builder	Stabilize Channels and Outlets
NPDES SW-073	276	Demolition Activities; Hazardous Materials; Solid and Liquid Waste Disposal; SPCCP Requirements	9. Control Pollutants a. All pollutants, including waste materials and demolition debris, that occur onsite shall be handled and disposed of by the Design-Builder in a manner that does not cause contamination of storm water.	Design-Builder	Control Pollutants
NPDES SW-074	277	BMP Inspection and Maintenance; BMP Installation; Hazardous Materials; SPCCP Requirements	b. The Design-Builder shall provide cover, containment, and vandalism protection for all chemicals, liquid products, petroleum products, and other materials that have the potential to pose a threat to human health or the environment. onsite fueling tanks shall include secondary containment. Secondary containment means placing tanks or containers within an impervious structure capable of containing 110% of the volume contained in the largest tank within the containment structure. Double-walled tanks do not require additional secondary containment.	Design-Builder	Control Pollutants
NPDES SW-075	278	BMP Inspection and Maintenance; Hazardous Materials; SPCCP Requirements	c. The Design-Builder shall use spill prevention and control measures when maintaining, fueling, and repairing heavy equipment and vehicles. The Design-Builder shall clean contaminated surfaces immediately following any spill incident.	Design-Builder	Control Pollutants
NPDES SW-076	279	BMP Inspection and Maintenance; BMP Installation; Solid and Liquid Waste Disposal; TЕСP Requirements	d. The Design-Builder shall discharge wheel wash or tire bath wastewater to a separate onsite treatment system that prevents discharge to surface water, such as a closed-loop recirculation or upland land application, or to the sanitary sewer with local sewer district approval.	Design-Builder	Control Pollutants
NPDES SW-077	280	Fertilizer and Pesticide Application; Hazardous Materials; Plant Establishment; Planting Provisions	e. The Design-Builder shall ensure that application of fertilizers and pesticides, is conducted in a manner and at application rates that will not result in loss of chemical to storm water runoff. The Design-Builder shall follow manufacturers' label requirements for application rates and procedures.	Design-Builder	Control Pollutants
NPDES SW-078	281	BMP Installation; Concrete Work; TЕСP Requirements; Water Quality	f. The Design-Builder shall use BMPs to prevent or treat contamination of storm water runoff by pH modifying sources. These sources include, but are not limited to: bulk cement, cement kiln dust, fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, dewatering concrete vaults, concrete pumping and mixer washout waters. (Also refer to the definition for "concrete wastewater" in Appendix A - Definitions). The Design-Builder shall adjust the pH of storm water if necessary to prevent violations of water quality standards.	Design-Builder	Control Pollutants
NPDES SW-079	282	BMP Installation; Concrete Work; Notification Requirements; TЕСP Requirements; Water Quality	g. The Design-Builder shall obtain written approval from Ecology prior to using chemical treatment, other than CO2 or dry ice to adjust pH.	Design-Builder	Control Pollutants

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NPDES SW-080	283	BMP Inspection and Maintenance; Dewatering; Drainage Facilities; SPCCP Requirements; TESC Requirements	10. Control De-Watering a. The Design-Builder shall discharge foundation, vault, and trench de-watering water, which have similar characteristics to storm water runoff at the site, into a controlled conveyance system prior to discharge to a sediment trap or sediment pond.	Design-Builder	Control De-Watering
NPDES SW-081	284	Dewatering; Drainage Facilities; TESC Requirements	b. Clean, non-turbid de-watering water, such as well-point ground water, can be discharged to systems tributary to, or directly into surface waters of the State, as specified in S9.D.8, provided the de-watering flow does not cause erosion or flooding of receiving waters. The Design-Builder shall not route clean de-watering water through storm water sediment ponds.	Design-Builder	Control De-Watering
NPDES SW-082	285	Dewatering; Solid and Liquid Waste Disposal; SPCCP Requirements; TESC Requirements	c. Other de-watering disposal options may include: i. infiltration ii. Transport offsite in a vehicle, such as a vacuum flush truck, for legal disposal in a manner that does not pollute state waters, iii. Ecology-approved onsite chemical treatment or other suitable treatment technologies, iv. Sanitary sewer discharge with local sewer district approval, if there is no other option, or v. use of a sedimentation bag with outfall to a ditch or swale for small volumes of localized dewatering.	Design-Builder	Control De-Watering
NPDES SW-083	286	Dewatering; Drainage Facilities; Solid and Liquid Waste Disposal; SPCCP Requirements; TESC Requirements	d. The Design-Builder shall handle highly turbid or contaminated dewatering water separately from storm water.	Design-Builder	Control De-Watering
NPDES SW-084	287	BMP Inspection and Maintenance; Erosion Control; TESC Requirements	11. Maintain BMPs a. All temporary and permanent erosion and sediment control BMPs shall be maintained and repaired by the Design-Builder as needed to assure continued performance of their intended function in accordance with BMP specifications.	Design-Builder	Maintain BMPs
NPDES SW-085	288	BMP Removal; TESC Requirements; Timing Requirements	b. All temporary erosion and sediment control BMPs shall be removed by the Design-Builder within 30 days after final site stabilization is achieved or after the temporary BMPs are no longer needed.	Design-Builder	Maintain BMPs
NPDES SW-086	289	Clearing and Grading; Erosion Control; Roadway Design; TESC Requirements	Manage the Project a. The Design-Builder shall phase development projects to the maximum degree practicable and shall take into account seasonal work limitations.	Design-Builder	Manage the Project
NPDES SW-087	290	BMP Inspection and Maintenance; Monitoring Requirements; TESC Requirements	b. Inspection and Monitoring All BMPs shall be inspected, maintained, and repaired by the Design-Builder as needed to assure continued performance of their intended function. Site inspections and monitoring shall be conducted in accordance with S4.	Design-Builder	Manage the Project
NPDES SW-088	291	Erosion Control; SPCCP Requirements; TESC Requirements	c. Maintaining an Updated Construction SWPPP The Design-Builder shall maintain, update, and implement the SWPPP (or TESC or SPCCP) in accordance with Conditions S3, S4 and S9.	Design-Builder	Manage the Project
NPDES SW-089	292	Submittal Requirements; TESC Requirements	SWPPP – Map Contents and Requirements The Design-Builder's SWPPP (or TESC) shall also include a vicinity map or general location map (e.g., USGS Quadrangle map, a portion of a county or city map, or other appropriate map) with enough detail to identify the location of the construction site and receiving waters within one mile of the site.	Design-Builder	SWPPP -Map Contents and Requirements
NPDES SW-090	293	SPCCP Requirements; Submittal Requirements; TESC Requirements	The Design-Builder's SWPPP (or TESC or SPCCP) shall also include a legible site map (or maps) showing the entire construction site. The following features shall be identified, unless not applicable due to site conditions: 1. The direction of north, property lines, and existing structures and roads; 2. Cut and fill slopes indicating the top and bottom of slope catch lines; 3. Approximate slopes, contours, and direction of storm water flow before and after major grading activities; 4. Areas of soil disturbance and areas that will not be disturbed; 5. Locations of structural and nonstructural controls (BMPs) identified in the SWPPP **This commitment is continued in ID #309.**	Design-Builder	SWPPP -Map Contents and Requirements
NPDES SW-091	294	Monitoring Requirements; Permit Coverage; Recordkeeping; Sampling	WSDOT and the Design-Builder shall allow an authorized representative of Ecology, upon the presentation of credentials and such other documents as may be required by law: A. To enter upon the premises where a discharge is located or where any records shall be kept under the terms and conditions of this permit. B. To have access to and copy -at reasonable times and at reasonable cost -any records required to be kept under the terms and conditions of this permit. C. To inspect -at reasonable times -any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit. D. To sample or monitor -at reasonable times -any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.	Design-Builder	Right of Inspection and Entry
NPDES SW-092	295	BMP Inspection and Maintenance; Drainage Facilities; Hazardous Materials; Solid and Liquid Waste Disposal	The Design-Builder shall ensure collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of storm water will not be resuspended or reintroduced to the final effluent stream for discharge to state waters.	Design-Builder	Removed Substances

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NPDES SW-093	296	Hazardous Materials; Permit Coverage; Solid and Liquid Waste Disposal	The Design-Builder shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.	Design-Builder	Toxic Pollutants
NPDES SW-094	297	Drainage Facilities; Pontoon Construction	A. Bypass Procedures Bypass, which is the intentional diversion of waste streams from any portion of a treatment facility, is prohibited for storm water events below the design criteria for storm water management. Ecology may take enforcement action against the Design-Builder for bypass unless one of the circumstances outlined in G26.A1 through G26.A5 of the NPDES is applicable.	Design-Builder	Bypass Procedures
NPDES SW-095	298	Hazardous Materials; Solid and Liquid Waste Disposal	Duty to Mitigate The Design-Builder is required to take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.	Design-Builder	Duty to Mitigate
NPDES SW-096	299	Recordkeeping; Submittal Requirements	The Permittee (Design-Builder) shall address written requests for plans and records (with notification to WSDOT) listed under Condition S5.G.1 as follows: a. A copy of plans and records shall be provided to Ecology within 14 days of receipt of a written request from Ecology. Upon receiving a written request from the public for the Permittee's plans and records, the Permittee shall either: i. Provide a copy of the plans and records to the requestor within 14 days of a receipt of the written request; or ii. Notify the requestor within 10 days of receipt of the written request of the location and times within normal business hours when the plans and records may be viewed, and provide access to the plans and records within 14 days of receipt of the written request; or iii. Within 14 days of receipt of the written request, the Permittee may submit a copy of the plans and records to Ecology for viewing and/or copying by the requestor at an Ecology office, or a mutually agreed upon location. If plans and records are viewed and/or copied at a location other than at an Ecology office, the Permittee will provide re fee may be charged. The Permittee shall notify the requestor within 10 days of receipt of the request where the plans and records may be viewed and/or copied.	Design-Builder	Access to Plans and Records
NPDES SW-097	300	Recordkeeping; Submittal Requirements	The Design-Builder shall submit to Ecology, within a reasonable time, all information which Ecology may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. WSDOT (with information provided by the Design-Builder as requested) shall also submit to Ecology upon request, copies of records required to be kept by this permit [40 CFR 122.41(h)].	WSDOT/Design-Builder	Duty to Provide Information
NPDES SW-098	301	Hazardous Materials; Solid and Liquid Waste Disposal	Any person who is found guilty of willfully violating the terms and conditions of this permit shall be deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to ten thousand dollars (\$10,000) and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation. Any person who violates the terms and conditions of a waste discharge permit shall incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars (\$10,000) for every such violation. Each and every such violation shall be a separate and distinct offense, and in case of a continuing violation, every day's continuance shall be deemed to be a separate and distinct violation.	Design-Builder	Penalties for Violating Permit Conditions
NPDES SW-099	302	Monitoring Requirements; Sampling; TESC Requirements; Visual Quality	The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this Condition, punishment shall be a fine of not more than \$20,000 per day of violation, or imprisonment of not more than four (4) years, or both.	WSDOT/Design-Builder	Penalties for Tampering
NPDES SW-100	303	Notification Requirements	REPORTING PLANNED CHANGES The Design-Builder shall notify Ecology immediately if there are any planned physical alterations, modification or additions to the construction activity permitted in the NPDES permit. The Design-Builder shall be responsible for any schedule delays that result from design changes. The Design-Builder shall, as soon as possible, give notice to Ecology of planned physical alterations, modifications or additions to the permitted construction activity, which will result in changes outlined under provision G20.A through D of this permit.	WSDOT/Design-Builder	Reporting Planned Changes
NPDES SW-101	304	Monitoring Requirements; Notification Requirements; Sampling; TESC Requirements; Water Quality	**This commitment is a continuation of ID #215.** f. Any water quality monitoring performed during inspection. g. General comments and notes, including a brief description of any BMP repairs, maintenance or installations made as a result of the inspection. h. A statement that, in the judgment of the person conducting the site inspection, the site is either in compliance or out of compliance with the terms and conditions of the SWPPP and the permit. If the site inspection indicates that the site is out of compliance, the inspection report shall include a summary of the remedial actions required to bring the site back into compliance, as well as a schedule of implementation. i. Name, title, and signature of the person conducting the site inspection; and the following statement: "I certify that this report is true, accurate and complete, to the best of my knowledge and belief."	Design-Builder	Site Inspections
NPDES SW-102	305	Monitoring Requirements; Notification Requirements; Sampling; Submittal Requirements; TESC Requirements; Water Quality	v. Continue to sample discharges daily until: 1. turbidity is .25 NTU (or lower); or 2. the CESCL has demonstrated compliance with the water quality standard for turbidity; a. no more than 5 NTU over background turbidity, if background is less than 50 NTU, or b. no more than 10% over background turbidity, if background is 50 NTU or greater; or 3. the discharge stops or is eliminated.	Design-Builder	Turbidity 250 NTU or greater

These Commitments are in addition to those listed in the contract, plans, specials and any applicable WSDOT manuals.

Index #	Unique ID	Topic / Source	Requirement	Responsibility	Heading
NPDES SW-103	306	Monitoring Requirements; Notification Requirements; Sampling; Submittal Requirements; TЕСP Requirements; Water Quality	b. Turbidity 250 NTU or greater: If discharge turbidity is greater than or equal to 250 NTU, the Design-Builder's CESCL shall: i. Notify WSDOT immediately in accordance with ECAP procedures and notify Ecology by phone in accordance with Condition S5.A.; and iL Review the SWPPP (or TЕСP or Water Quality Monitoring Plan) for compliance with Condition S9 and make appropriate revisions within 7 days of the discharge that exceeded the benchmark; and iii. Fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, but within 10 days of the discharge that exceeded the benchmark; iv. Document 8MP implementation and maintenance in the site log book.	Design-Builder	Turbidity 250 NTU or greater
NPDES SW-104	307	Monitoring Requirements; Notification Requirements; Sampling; Submittal Requirements; TЕСP Requirements; Water Quality	3. The Design-Builder shall submit a detailed written report to Ecology (and copy WSDOT on any correspondence) within five (5) days, unless requested earlier by Ecology. The report shall contain a description of the noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Design-Builder must report any unanticipated bypass and/or upset that exceeds any effluent limit in the permit in accordance with the 24-hour reporting requirement contained in 40 C.F.R. 122.41(1)(6). Compliance with these requirements does not relieve the Design-Builder from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.	WSDOT/Design-Builder	Noncompliance Notification
NPDES SW-105	308	TESCP Requirements	BMPs shall be consistent with the Stormwater Management Manual for Western Washington (most recent edition) for sites west of the crest of the Cascade Mountains, or the SWPPP shall document that the BMPs selected provide an equivalent level of pollution prevention, compared to the applicable Stormwater Management Manuals, including: a. The technical basis for the selection of all storm water BMPs (scientific, technical studies and/or modeling) that support the performance claims for the BMPs being selected; and b. An assessment of how the selected BMP will satisfy AKART requirements and the applicable federal technology-based treatment requirements under 40 CFR part 125.3.	Design-Builder	Stormwater Best Management Practices (BMPs)
NPDES SW-106	309	SPCCP Requirements; Submittal Requirements; TЕСP Requirements	**This commitment is a continuation of ID #293.** 6. Locations of offsite material, stockpiles, waste storage, borrow areas, and vehicle/equipment storage areas; 7. Locations of all surface water bodies, including wetlands; 8. Locations where storm water or non-storm water discharges offsite and/or to a surface water body, including wetlands; 9. Location of water quality sampling station(s), if sampling is required by state or local permitting authority; and 10. Areas where final stabilization has been accomplished and no further construction phase permit requirements apply.	Design-Builder	SWPPP -Map Contents and Requirements
NPDES SW-108	310	Application requirements, S2.A.1.d and e	If the Design-Builder intends to use a BMP selected on the basis of Special Condition S9.C4 ("demonstrably equivalent" BMPs), the applicant must notify Ecology of its selection as part of the NOI. In the event the Design-Builder selects BMPs after submission of the NOI, it must provide notice of the selection of an equivalent BMP to Ecology at least 60 days before intended use of the equivalent BMP. The Design-Builder must notify Ecology regarding any changes to the information provided in the NOI by submitting an updated NOI.	Design-Builder	
NPDES SW-109	311	Monitoring requirements, S4	If construction activity results in the disturbance of 1 acre or more, and involves significant concrete work (1,000 cubic yards of poured or recycled concrete over the life of a project) or the use of engineered soils, and storm water from the affected area drains to surface waters of the State or to a storm sewer storm water collection system that drains to other surfaces waters of the State, the Design-Builder must conduct pH monitoring sampling in accordance with Special Condition S4.D.	Design-Builder	
NPDES SW-110	312	Monitoring requirements, Pollutant Control	If the project discharges to waters covered by a TMDL or another pollution control plan the Design-Builder shall comply with Special Conditions S8.E.	Design-Builder	
NPDES SW-111	313	Control Pollutants; S9.D.9.h	The Design-Builder shall assure that washout of concrete trucks is performed offsite or in designated concrete washout areas only. The Design-Builder shall not wash out concrete trucks onto the ground, or into storm drains, open ditches, streets, or streams. The Design-Builder shall not dump excess concrete onsite, except in designated concrete washout areas. Concrete spillage or concrete discharge to surface waters of the State is prohibited.	Design-Builder	
NPDES SW-112	314	Notice of Termination	The Design-Builder shall be responsible for stabilizing site conditions once construction is complete, and for filing a Notice of Termination with the Department of Ecology.	Design-Builder	
NPDES-CTA-TS-1	315	Chemical Treatment Compliance for Temp. System	The Design-Builder shall ensure that all chemical treatment is performed in accordance with the Department of Ecology approved Chemical Treatment Authorization for the temporary treatment system under the NPDES Construction General permit.	Design-Builder	